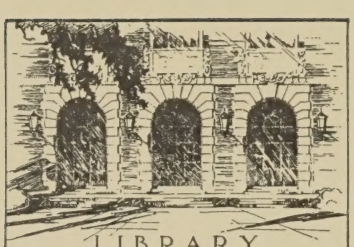

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HERTZBERG-NEW METHOD, INC.

THE ELEMENTS

OF

COMMERCIAL CALCULATIONS,

AND

AN INTRODUCTION

TO THE

Most Important Branches

OF THE

COMMERCE & FINANCES

OF THIS COUNTRY.

By W. TATE,

OF THE FINISHING ACADEMY, CATEATON-STREET.

PART II.

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COMPOUND INTEREST.

A SUM of money is said to accumulate at Compound Interest, when the Simple Interest at each period in which it becomes due, is added to the Principal or the Sum upon which it is calculated, and when the amount forms a new Principal for the succeeding calculation.

It has been before observed, that the method of thus charging Interest upon Interest, is illegal, except in the running balances of Accounts, and in the renewal of Bonded Securities; but where the Interest is actually received, it may be immediately applied as a fresh loan, without incurring the penalties of usury. Opportunities of this direct application of the amount of the Interest, but seldom occur; unless it is with money invested in the public funds, in which, as the amount of the actual Interest depends entirely upon the price of the Stocks, &c, the rate of accumulation must be continually varying, and any calculation of the probable amount of money so employed, can at the best only be made upon a sort of average Interest. In estimating the values, &c, of Annuities, the principles of this accumulation of money to the best advantage, are taken into consideration, and we shall therefore here exhibit a few calculations of this nature.

TO FIND THE AMOUNT OF A SUM OF MONEY ACCUMULATING AT COMPOUND INTEREST.

A general method of performing calculations of compound Interest, is, to find the Interest for each period, and add it to the amount on which it is calculated to form the succeeding principal; or, the amount of £1 for the given time, and from this estimate the amount of the given Sum.

The following Table of Multipliers, are the numbers expressing the amounts of £1 for either 1 year or half a year, for less periods than which calculations of this nature are seldom made.

	3 per Ct.	4 per Ct.	5 per Ct.	6 per Ct.	8 per Ct.
for 1 year	1.03	1.04	1.05	1.06	1.08
½ a year	1.015	1.02	1.025	1.03	1.04

Example.

To find the amount at compound Interest, of £850 for 6 years, at 5 per Cent per Annum.

£		£	
850	.....Principal or	1.05	amount of £1 for 1 year.
42.5	...Interest	.0525	Interest
892.5	amount for 1 year.	1.1025	—— for 2 years.
44.625		.055125	
937.125	do. — 2 years.	1.157625	—— for 3 years.
46.85625		.057881	
983.98125	do.— 3 years.	1.215506	—— for 4 years.
49.19906		.060775	
1033.18031	do.— 4 years.	1.276281	—— for 5 years.
51.65901		.063814	
1084.83932	do.— 5 years.	1.340095	—— for 6 years.
54.24196		850	
£1139.08128	do.— 6 years.	£1139.080	amount of £850.

The product of this calculation by either method, is very nearly equal to £1139 1 $7\frac{1}{2}$; of the two, the first produces a more precise result with less trouble than the second; and, as the rate is 5 per cent, in either of these the Interest is found, by dividing the Sum on which it is calculated by 20.

When a calculation of this sort is required to be made for any great number of years, and where no very great precision is required in the result, it can be very concisely performed by Logarithms; by raising the number denoting the amount of £1 for 1 year, to the power denoted by the number of years, and then the product is the Logarithm of the number of pounds, in the amount of £1 for the given time; which multiplied, as in the second form, by the number of the given pounds, (either by common numbers or by Logarithms,) produces the required amount.

The preceding calculation may therefore be thus performed by Logarithms.

The log of 1.05 is	.021189
number of years	6
	.127134
log of 850.....	2.929419
	3.056553 = 1139.075 nearly,

which produces £1139 1 6; but it is to be observed, that the product obtained by this method would differ sometimes much more considerably from the true amount, if either the sum, or the number of the years were large, on account of the usual Tables of Logarithms not being constructed to a sufficient number of decimal places.

In illustration of the great difference in the results of money placed out at interest, as being suffered to remain in one case, without receiving the interest as it becomes due, and employing to advantage; and, in the other, receiving and employing it; or, in other words, to show the difference between the amount of money accumulating at Simple and at Compound Interest, Doctor Price, as an argument for the establishment of an improvable fund for discharging the National Debt, showed, in a rather extravagant calculation, that if 1 penny were put out at Interest for 1791 years, upon the former plan it would only amount to 7 s 6 d, whereas by the latter its amount would be more than equal in value, to the worth of 300,000,000 solid globes of gold, each equal in size to the earth.

Calculations of Compound Interest are also made by the assistance of Tables similar to the following, which are constructed for 3, 4, 5, 6 and 8 per cent, for any number of years not exceeding 50; from which it appears, that at 3 per cent a sum of money nearly doubles itself in 23 years, at 4 per cent in nearly 18 years, at 5 per cent in a little more than 14 years, at 6 per cent in nearly 12 years, and at 8 per cent in rather more than 9 years.

The use of the Table may be shown by again repeating the preceding Example.

Thus in the column of 5 per cent, the amount of £1

for 6 years is	1.340096	
which multiplied by	850	
produces	£1139.081	= £ 1139 1 7½

TABLE I.

OF THE AMOUNT OF £1 ACCUMULATING AT COMPOUND INTEREST

Yrs.	3 per Cent	4 per Cent.	5 per Cent.	6 per Cent.	8 per Cent.
1	1.030000	1.040000	1.050000	1.060000	1.080000
2	1.060900	1.081600	1.102500	1.123600	1.166400
3	1.092727	1.124864	1.157625	1.191016	1.259712
4	1.125509	1.169859	1.215506	1.262477	1.360489
5	1.159274	1.216653	1.276282	1.338226	1.469328
6	1.194052	1.265319	1.340096	1.418519	1.586874
7	1.229874	1.315932	1.407100	1.503630	1.713824
8	1.266770	1.368569	1.477455	1.593848	1.850930
9	1.304773	1.423312	1.551328	1.689479	1.999005
10	1.343916	1.480244	1.628895	1.790848	2.158925
11	1.384234	1.539454	1.710339	1.898299	2.331639
12	1.425761	1.601032	1.795856	2.012196	2.518170
13	1.468534	1.665074	1.885649	2.132928	2.719624
14	1.512590	1.731676	1.979932	2.260904	2.937194
15	1.557967	1.800944	2.078928	2.396558	3.172169
16	1.604706	1.872981	2.182875	2.540352	3.425943
17	1.652848	1.947901	2.292018	2.692773	3.700018
18	1.702433	2.025817	2.406619	2.854339	3.996020
19	1.753506	2.106849	2.526950	3.025600	4.315701
20	1.806111	2.191123	2.653298	3.207135	4.660957
21	1.860295	2.278768	2.785963	3.399564	5.033834
22	1.916103	2.369919	2.925261	3.603537	5.436540
23	1.973587	2.464716	3.071524	3.819750	5.871464
24	2.032794	2.563304	3.225100	4.048935	6.341181
25	2.093778	2.665836	3.386355	4.291871	6.848475
26	2.156591	2.772470	3.555673	4.549383	7.396353
27	2.221289	2.883369	3.733456	4.822346	7.988061
28	2.287928	2.998703	3.920129	5.111687	8.627106
29	2.356566	3.118651	4.116136	5.418388	9.317275
30	2.427262	3.243398	4.321942	5.743491	10.062657
31	2.500080	3.373133	4.538039	6.088101	10.867669
32	2.575083	3.508059	4.764941	6.453387	11.737083
33	2.652335	3.648381	5.003189	6.840590	12.676050
34	2.731905	3.794316	5.253348	7.251025	13.690134
35	2.813862	3.946089	5.516015	7.686087	14.785344
36	2.898278	4.103933	5.791816	8.147252	15.968172
37	2.985227	4.268090	6.081407	8.636087	17.245626
38	3.074783	4.438813	6.385477	9.154252	18.625276
39	3.167027	4.616366	6.704751	9.703507	20.115298
40	3.262038	4.801021	7.039989	10.285718	21.724522
41	3.359899	4.993061	7.391988	10.902861	23.462483
42	3.460696	5.192784	7.761588	11.557033	25.339482
43	3.564517	5.400495	8.149667	12.250455	27.366640
44	3.671452	5.616515	8.557150	12.985482	29.555972
45	3.781596	5.841176	8.985008	13.764611	31.920449
46	3.895044	6.074823	9.434258	14.590487	34.474985
47	4.011895	6.317816	9.905971	15.465917	37.232012
48	4.132252	6.570528	10.401270	16.393872	40.210573
49	4.256219	6.833349	10.921333	17.377504	43.427419
50	4.383906	7.106683	11.467400	18.420154	46.901613

TO FIND THE PRESENT VALUE OF A SUM OF MONEY DUE AT A FUTURE PERIOD, ALLOWING THE PRESENT WORTH TO BE IMPROVED AT COMPOUND INTEREST.

Calculations of this nature may be performed upon the principles of the fourth method of discount, (see Part I, page 156,) or the directions for this purpose may be thus expressed.

Find, from the preceding Table, the amount of £1, for the given time and at the given rate, and say as this amount is to £1, so is the given Sum to its present worth.

Example.

To find the present worth of £600 to be received in 6 years, admitting Compound Interest to be allowed at 4 per cent, per annum.

The amount of £1 from Table I. — is £1.265319.

£		£		£	
If 1.265319	produce	1	what will	600	produce?

£
1.265319) 600

Answer £474.188 nearly.

As a proof, we should find that £474 3 9 accumulating for 6 years at 4 per cent per annum, Compound Interest, would produce £600.

These calculations are facilitated by the following Table constructed in the above manner, or by finding the reciprocals of the numbers in Table I.

The use may be thus shown—

£
.790315 present value of £1.
600

As above £474.189000 = £474 3 9

TABLE II.

OF THE PRESENT VALUE OF £1 DUE AT THE END OF A GIVEN NUMBER OF YEARS.

Yrs.	3 per Cent.	4 per Cent.	5 per Cent.	6 per Cent.	8 per Cent.
1	.970874	.961538	.952381	.943396	.925926
2	.942596	.924556	.907029	.889996	.857339
3	.915142	.888996	.863838	.839619	.793832
4	.888487	.854804	.822702	.792094	.735030
5	.862609	.821927	.783526	.747258	.680583
6	.837484	.790315	.746215	.704961	.630170
7	.813092	.759918	.710681	.665057	.583490
8	.789409	.730690	.676839	.627412	.540269
9	.766417	.702587	.644609	.591898	.500249
10	.744094	.675564	.613913	.558395	.463193
11	.722421	.649581	.584679	.526788	.428883
12	.701380	.624597	.556837	.496969	.397114
13	.680951	.600574	.530321	.468839	.367698
14	.661118	.577475	.505068	.442301	.340461
15	.641862	.555265	.481017	.417265	.315242
16	.623167	.533908	.458112	.393646	.291890
17	.605016	.513373	.436297	.371364	.270269
18	.587395	.493628	.415521	.350344	.250249
19	.570286	.474642	.395734	.330513	.231712
20	.553676	.456387	.376889	.311805	.214548
21	.537549	.438834	.358942	.294155	.198656
22	.521893	.421955	.341850	.277505	.183941
23	.506692	.405726	.325571	.261797	.170315
24	.491934	.390121	.310068	.246979	.157699
25	.477606	.375117	.295303	.232999	.146018
26	.463695	.360689	.281241	.219810	.135202
27	.450189	.346817	.267848	.207368	.125187
28	.437077	.333477	.255094	.195630	.115914
29	.424346	.320651	.242946	.184557	.107328
30	.411987	.308319	.231377	.174110	.099377
31	.399987	.296460	.220359	.164255	.092016
32	.388337	.285058	.209866	.154957	.085200
33	.377026	.274094	.199873	.146186	.078889
34	.366045	.263552	.190355	.137912	.073045
35	.355383	.253415	.181290	.130105	.067635
36	.345032	.243669	.172657	.122741	.062625
37	.334983	.234297	.164436	.115793	.057986
38	.325226	.225285	.156605	.109239	.053690
39	.315754	.216621	.149148	.103056	.049713
40	.306557	.208289	.142046	.097222	.046031
41	.297628	.200278	.135282	.091719	.042621
42	.288959	.192575	.128840	.086527	.039464
43	.280543	.185168	.122704	.081630	.036541
44	.272372	.178046	.116861	.077009	.033834
45	.264439	.171198	.111297	.072650	.031328
46	.256737	.164614	.105997	.068538	.029007
47	.249259	.158283	.100949	.064658	.026859
48	.241999	.152195	.096142	.060998	.024869
49	.234950	.146341	.091564	.057546	.023027
50	.228107	.140713	.087204	.054288	.021321

OF ANNUITIES AND REVERSIONARY PAYMENTS.

An Annuity is a sum of money receivable either yearly, or at different periods during each year.

A reversionary Payment is a sum of money to be paid or received after the expiration of either a certain period of time, or after the accomplishment of a certain event; and

A reversionary Annuity is one which is postponed in a similar manner; while

Contingent Payments and Annuities are such as are dependent upon particular chances, or such as may or may not be carried into effect.

OF ANNUITIES.

Annuities, besides being certain, contingent, or in reversion, are Unlimited in their continuance, or perpetual, as those arising from the Public Funds, which are engaged to be continued until the capital upon which they are calculated is paid; and those produced from Freehold Property.

Limited, or such as are to continue only for a certain length of time, as some of the Annuities created by the Public Debt, and the produce of money invested in Leaseholds; and

Life Annuities, or those dependent in their duration upon the life or lives of one or more persons. Of this sort are Annuities now granted by authority of the Government in exchange for perpetual Annuities; those more immediately the objects of several chartered Companies; and some which are dependent upon the responsibility of private individuals.

Besides the preceding distinctions, Annuities are termed either redeemable or irredeemable—redeemable where they may be cancelled by the return of the consideration money, or by the payment of the amount upon which they are calculated; and irredeemable, when the obligation cannot be dissolved, but by the consent of both the parties concerned.

PART I.

OF UNLIMITED ANNUITIES.

TO FIND THE PRESENT VALUE OF A PERPETUAL ANNUITY.

Directions.—Say as the proposed rate per cent is to £ 100, so is the given Annuity to its present value.

Or, multiply the yearly Annuity by $33\frac{1}{3}$, for 3 per Cent
25 , for 4 per Cent
20 , for 5 per Cent, &c.

Example.

To find the present worth of a perpetual Annuity of £ 50, supposing the Interest of the money advanced to be 4 per Cent.

	£		£		£	
If	4	require	100	what will	50	require?
					25	
					£ 1250	Answer.

It is in this manner, that the value of FREEHOLD ESTATES is estimated, and by changing the form of the proportional question, the rate of Interest, or the annual Rent, &c. is found.—As

	£		£		£	
If	1250	produce	50	what will	100	produce?

Answer £ 4 rate per Cent.

	£		year		£	
If	50	require	1	what will	1250	require?

* Answer 25 years, the term of Purchase.

	£		£		£	
If	100	produce	4	what will	1250	produce?

Answer £ 50, the yearly Rent.

* In the valuation of Freehold Property, it is usual to say it is thus worth a certain number of years Purchase.

TO FIND THE VALUE OF AN UNLIMITED ANNUITY TO COMMENCE AFTER A CERTAIN TERM OF YEARS.

Directions—Find the value of the Annuity for the given time, and subtract the amount from the value of the perpetuity.

Example.

Freehold Property considered to be worth £120 per Annum, is let on lease, which has been sold, and of which 12 years have to run. To find the value of this reversion, allowing the Interest upon the money advanced, to be 5 per cent.

Annual Value	£ 120
Rate of a Perpetuity at 5 per cent....	20
Value of the Freehold.....	£2400

From Table 4, page 15, the present value of an Annuity of £1 for 12 years is £8.863252

120

of £120 ..... £1063.590 or 1064

Value of the reversion..... £1336

The calculation is here made only in pounds, and it is generally made in the above manner in order to show the separate values; otherwise, it may be thus performed.

Rate of value for the Perpetuity.....20

Do....for....12 years 8.863252

11.136748

120

Value of the reversion.. £1336.40976

PART II.

OF LIMITED ANNUITIES.

TO FIND THE AMOUNT OF ANY SUM PER ANNUM, INCREASING YEARLY, FOR A GIVEN PERIOD, AT COMPOUND INTEREST.

Directions—With the interest produced from the first sum and its accumulations, add in the given annual payment.

Example.

To find the amount of £ 10 per Annum, increasing yearly at 4 per cent, for 4 years.

	£	
1st Annuity....	10	by 1.04
	.4	.....Interest.
2nd.....	10.	
	20.4	
	.816	.....Interest.
3rd.....	10.	
	31.216	
	1.24864	...Interest.
4th.....	10.	
	42.46464	
	1.698585	..Interest.
required amount £	44.163225	..for 5 years.

In this calculation, it is supposed that the given sum is advanced at the beginning of each year, to accumulate with the principal and the compound interest; should it be advanced at the end of the year, the amount must be diminished by the last interest, as it would here be £ 42.4646.

Upon the latter principles the following Table is composed, from which the amount required may be found by multiplying the number of pounds in the Annuity by the tabular number, and *vice versâ*.

Thus the tabular number for 4 years at 4 per cent is 4.246464, and this multiplied by 10, produces £ 42.46464, or nearly £ 42 9 3, as above.

TABLE III.

OF THE AMOUNT OF £1 PER ANNUM, INCREASING AT COMPOUND INTEREST FOR A NUMBER OF YEARS.

Yrs.	3 per Cent.	4 per Cent.	5 per Cent.	6 per Cent.	8 per Cent.
1	1.000000	1.000000	1.000000	1.000000	1.000000
2	2.030000	2.040000	2.050000	2.060000	2.080000
3	3.090900	3.121600	3.152500	3.183600	3.246400
4	4.183627	4.246464	4.310125	4.374616	4.506112
5	5.309136	5.419323	5.525631	5.637093	5.866601
6	6.468410	6.632975	6.801913	6.975319	7.335929
7	7.662462	7.898294	8.142008	8.393838	8.922803
8	8.892336	9.214226	9.549109	9.897468	10.636628
9	10.159106	10.582795	11.026564	11.491316	12.487558
10	11.463879	12.006107	12.577893	13.180795	14.486562
11	12.807796	13.486351	14.206787	14.971643	16.645487
12	14.192030	15.025805	15.917127	16.869941	18.977126
13	15.617790	16.626838	17.712983	18.882138	21.495297
14	17.086324	18.291911	19.598632	21.015066	24.214920
15	18.598914	20.023588	21.578564	23.275970	27.152114
16	20.156881	21.824531	23.657492	25.672528	30.324283
17	21.761588	23.697512	25.840366	28.212880	33.750226
18	23.414435	25.645413	28.132385	30.905653	37.450244
19	25.116868	27.671229	30.539004	33.759992	41.446263
20	26.870374	29.778079	33.065944	36.785591	45.761964
21	28.676486	31.969202	35.719252	39.992727	50.422921
22	30.536780	34.247970	38.505214	43.392290	55.456755
23	32.452884	36.617889	41.430475	46.995828	60.893296
24	34.426470	39.082604	44.501999	50.815577	66.764759
25	36.459264	41.645908	47.727099	54.864512	73.105940
26	38.553042	44.311745	51.113454	56.156383	79.954415
27	40.709634	47.084214	54.669126	63.705766	87.350768
28	42.930923	49.967583	58.402583	68.528112	95.338830
29	45.218850	52.966286	62.322712	73.639798	103.965936
30	47.575416	56.084938	66.438847	79.058186	113.283211
31	50.002678	59·328335	70.760790	84.801677	123.345868
32	52.502759	62.701469	75.298829	90.889778	134.213537
33	55.077841	66.209527	80.063771	97.343165	145.950620
34	57.730177	69.857909	85.066959	104.183755	158.626670
35	60.462082	73.652225	90.320307	111.434780	172.316804
36	63.275944	77.598314	95.836323	119.120867	187.102148
37	66.174223	81.702246	101.628139	127.268119	203.070320
38	69.159449	85.970336	107.709546	135.904206	220.315945
39	72.234233	90.409150	114.095923	145.058458	238.941221
40	75.401260	95.025516	120.799774	154.761966	259.056519
41	78.663298	99.826536	127.839763	165.047684	280.781040
42	82.023196	104.819598	135.231751	175.950545	304.243523
43	85.483892	110.012382	142.993339	187.507577	329.583005
44	89.048409	115.412877	151.143006	199.758032	356.949646
45	92.719861	121.029392	159.700156	212.843514	386.505617
46	96.501457	126.870568	168.685164	226.508125	418.426067
47	100.396501	132.945390	178.119422	241.098612	452.900152
48	104.408396	139.263206	188.025393	256.564529	490.132164
49	108.540648	145.833734	198.426663	272.958401	530.342737
50	112.796867	152.667084	209.347996	290.335905	573.770156

TO FIND THE PRESENT WORTH OF AN ANNUITY FOR A CERTAIN NUMBER OF YEARS, AT A GIVEN RATE OF COMPOUND INTEREST.

Directions.—From Table 1, find the amount of £1 for the given time and rate, and subtract £1 from it, then say, as the Interest of £1 for 1 year is to £1, and as this tabular number is to the above remainder, so is the given Annuity to its present worth.

Example.

To find the present worth of Leasehold property producing £100 per Annum for 21 years, allowing Compound Interest at 5 per Cent.

The tabular number is table 1, for 21 years at 5 per Cent is 2.785963 amount of £1
less ..... 1.

The Interest .... 1.785963 or Produce of £1

Interest for 1 year .05

As £ .05 is to 1 £ and 2.785963 to 1.785963 } so is £100 to £ 1282 nearly, the Present worth required.

Form of the Calculation.

	£
.05	100
2.785963	1.785963
.13929815)	178.5963
	£1282.115 or £1282 2 4.

In this manner the following Table is constructed, which may be considered as showing either the present value of an annuity for a certain period, or how many years purchase may be given for it; as the value of the above is nearly 12 years and 8 tenths.

The object of a calculation of this nature is to determine what sum being improved at Compound Interest, will admit of the proposed Annuity being paid, so that the whole shall be absorbed in the given time; thus, in this calculation, the £ 1282 improved at 5 per cent. per Annum, will allow £ 100 per Annum to be paid out of it, and of its produce for 21 years, and the last sum will be the amount of the remainder of the 20th year, with the Interest for the next year.

The reversing of this calculation is sometimes required, to find the rate per cent which is made of money thus invested; and the performance of this without the assistance of the Table, is so very long and difficult, that we shall here omit giving it.

By the Table it is thus performed;

Say, as the yearly Rent or Annuity is to the sum laid out, so is £ 1 to the amount which it would require; then find the nearest Tabular number to this product, in the line for the given years, and the head of the column will show the rate per Cent.

Example.

To find the rate per Cent made of £ 500 invested in the purchase of an Annuity of £ 50 for 16 years certain.

	£		£		£	
If	50	require	500	what will	1	require?

Answer £ 10

and in the line for 16 years, in the Table, we find that 10 is nearly the product of 6 per Cent.

So if the Annuity be payable half-yearly, making £ 25, the product will be 20,—which is nearly found in the 32 years line, under 3 per Cent;—making, as before, nearly 6 per Cent per Annum; half-yearly Annuities being the same for double the time, at half the rate; as 32 payments of £ 3 for 16 payments of £ 6.

TABLE IV.

OF THE PRESENT WORTH OF £1 PER ANNUM, INCREASING AT COMPOUND INTEREST FOR A NUMBER OF YEARS.

Yrs.	3 per Cent.	4 per Cent.	5 per Cent.	6 per Cent.	8 per Cent.
1	.970874	.961538	.952381	.943396	.925926
2	1.913470	1.886095	1.859410	1.833393	1.783265
3	2.828611	2.775091	2.723248	2.673012	2.577097
4	3.717098	3.629895	3.545950	3.465106	3.312127
5	4.579707	4.451822	4.329477	4.212364	3.992710
6	5.417191	5.242137	5.075692	4.917324	4.622880
7	6.230283	6.002055	5.786373	5.582381	5.206370
8	7.019692	6.732745	6.463213	6.209794	5.746639
9	7.786109	7.435332	7.107822	6.801692	6.246888
10	8.530203	8.110896	7.721735	7.360087	6.710081
11	9.252624	8.760477	8.306414	7.886875	7.138964
12	9.954004	9.385074	8.863252	8.383844	7.536078
13	10.634955	9.985648	9.393573	8.852683	7.903776
14	11.296073	10.563123	9.898641	9.294984	8.244237
15	11.937935	11.118387	10.379658	9.712249	8.559479
16	12.561102	11.652296	10·837770	10.105895	8.851369
17	13.166118	12.165669	11.274066	10.477260	9.121638
18	13.753513	12.659297	11.689587	10.827603	9.371887
19	14.323799	13.133939	12.085321	11.158116	9.603599
20	14.877475	13.590326	12.462210	11.469921	9.818147
21	15.415024	14.029160	12.821153	11 764077	10.016803
22	15.936917	14.451115	13.163003	12.041582	10.200744
23	16.443608	14.856842	13.488574	12.303379	10.371059
24	16.935542	15·246963	13.798642	12.550358	10.528758
25	17.413148	15.622080	14.093945	12.783356	10.674776
26	17.876842	15.982769	14.375185	13.003166	10.809978
27	18.327031	16.329586	14.643034	13.210534	10.935165
28	18.764108	16.663063	14.898127	13.406164	11.051078
29	19.188455	16.983715	15.141074	13.590721	11.158406
30	19.600441	17.292033	15.372451	13.764831	11.257783
31	20.000428	17.588494	15.592810	13·929086	11.349799
32	20.388765	17.873551	15.802677	14.084043	11.434999
33	20.765792	18.147646	16.002549	14.230230	11.513888
34	21.131837	18.411198	16.192904	14.368141	11.586934
35	21.487220	18.664613	16.374194	14.498246	11.654568
36	21.832252	18.908282	16.546852	14.620987	11.717193
37	22.167235	19.142579	16.711287	14.736780	11.775179
38	22.492462	19.367864	16.867893	14.846019	11.828869
39	22.808215	19.584485	17.017041	14.949075	11.878582
40	23.114772	19·792774	17.159086	15.046297	11.924613
41	23.412400	19.993052	17.294368	15.138016	11.967235
42	23.701359	20.185627	17.423208	15.224543	12.006699
43	23.981902	20.370795	17.545912	15.306173	12.043240
44	24.254274	20.548841	17.662773	15.383182	12.077074
45	24.518713	20.720040	17.774070	15.455832	12.108401
46	24.775449	20.884654	17.880066	15.524370	12.137409
47	25.024708	21.042936	17.981016	15.589028	12.164267
48	25.266707	21.195131	18.077158	15.650027	12.189136
49	25.501657	21.341472	18.168722	15.707572	12.212163
50	25.729764	21.482185	18.255925	15.761861	12.233485

TO FIND THE YEARLY EQUAL PAYMENTS EQUIVALENT TO THE AMOUNT OF A GIVEN SUM, INCREASING DURING THAT PERIOD AT COMPOUND INTEREST.

Directions.—Say, as the present value of £ 1 per Annum from the preceding Table, is to £ 1, so is the given sum to the yearly payment.

Example.

To find the rent which should be paid for Leasehold property of 21 years to run, purchased for £ 1000, admitting that 8 per Cent, per Annum, is but an equivalent rate for the use of the money, with the risk of payment, and the contingent expenses.

£		£		£	
If 10.0168	produce	1	what will	1000	produce?

£

10,0168) 1000

£ 99.832, or, £ 99 16 8.

In the manner of the above calculation, the following Table is constructed, in which the annual payment for £ 1 advanced is given, from which the annual payments for any other sum may be obtained; thus for the above, referring to the Table, the number of pounds answering to 21 years at 8 per cent, is .099832, which multiplied by 100 produces, as above, £ 99.832, or nearly £ 99 16 8.

TABLE V.

OF THE ANNUAL PAYMENTS FOR A CERTAIN NUMBER OF YEARS WHICH CAN BE PURCHASED WITH 1 £.

Yrs.	3 per Cent.	4 per Cent.	5 per Cent.	6 per Cent.	8 per Cent.
1	1.030000	1.040000	1.050000	1.060000	1.080000
2	.522611	.530196	.537805	.545437	.560769
3	.353530	.360349	.367209	.374110	.388034
4	.269027	.275490	.282012	.288591	.301921
5	.218355	.224627	.230975	.237396	.250456
6	.184597	.190762	.197017	.203363	.216315
7	.160506	.166610	.172820	.179135	.192072
8	.142456	.148528	.154722	.161036	.174015
9	.128434	.134493	.140690	.147022	.160080
10	.117231	.123291	.129505	.135868	.149029
11	.108077	.114149	.120389	.126793	.140076
12	.100462	.106552	.112825	.119278	.132695
13	.094030	.100144	.106456	.112960	.126522
14	.088526	.094669	.101024	.107585	.121297
15	.083767	.089941	.096342	.102963	.116830
16	.079611	.085820	.092270	.098952	.112977
17	.075953	.082199	.088699	.095445	.109629
18	.072709	.078993	.085546	.092357	.106702
19	.069814	.076139	.082745	.089621	.104128
20	.067216	.073582	.080243	.087185	.101852
21	.064872	.071280	.077996	.085005	.099832
22	.062747	.069199	.075971	.083046	.098032
23	.060814	.067309	.074137	.081278	.096422
24	.059047	.065587	.072470	.079679	.094978
25	.057428	.064012	.070952	.078227	.093679
26	.055938	.062567	.069564	.076904	.092507
27	.054564	.061239	.068292	.075697	.091448
28	.053293	.060013	.067123	.074593	.090489
29	.052115	.058880	.066046	.073580	.089619
30	.051019	.057830	.065051	.072649	.088827
31	.049999	.056855	.064132	.071792	.088107
32	.049047	.055949	.063280	.071002	.087451
33	.048156	.055104	.062490	.070273	.086852
34	.047322	.054315	.061755	.069598	.086304
35	.046539	.053577	.061072	.068974	.085803
36	.045804	.052887	.060434	.068395	.085345
37	.045112	.052240	.059840	.067857	.084924
38	.044459	.051632	.059284	.067358	.084539
39	.043844	.051061	.058765	.066894	.084185
40	.043262	.050523	.058278	.066462	.083860
41	.042712	.050017	.057822	.066059	.083561
42	.042192	.049540	.057395	.065683	.083287
43	.041698	.049090	.056993	.065333	.083034
44	.041230	.048665	.056616	.065006	.082802
45	.040785	.048262	.056262	.064700	.082587
46	.040363	.047882	.055928	.064415	.082390
47	.039961	.047522	.055614	.064148	.082208
48	.039578	.047181	.055340	.063898	.082040
49	.039213	.046857	.055039	.063664	.081886
50	.038865	.046550	.054777	.063444	.081743

TO FIND THE PRESENT VALUE OF A REVERSIONARY LIMITED ANNUITY.

From the value of the Annuity for the whole term of years, subtract the value for the intermediate period, and the remainder will be the value required.

Example.

To find the present value of Leasehold Property, the whole unexpired term being 18 years, and the estimated value £ 150 per Annum; an under lease having been sold, of which there are 10 years to run: Compound Interest being reckoned at 6 per cent.

									£
The present Value, from Table 4,									£
of	£ 150	for	18	years	is....	10.827603	×	150 =	1624
			10	years.....		7.360087	×	150 =	1104
					Present Value required....				£ 520

Upon the above data the true present value is very nearly £ 520 2 6, which sum, improved yearly at 6 per cent, Compound Interest, would amount to nearly £ 931 10, at the termination of the 10 years; and this sum would be sufficient to purchase an Annuity of £ 150 per Annum for the remaining 8 years, thus proving the accuracy of the above calculation.

In the same manner the Example in page 10, might have been proved; as the value of the reversion laid out for 12 years, would have been found to produce a sufficient sum at the end of that time, to purchase a perpetuity of the proposed yearly value.

LIFE ANNUITIES.

The various calculations relating to Life Annuities are usually arranged under the following heads.

Annuities continuing during the natural term of single lives.

Annuities on the joint lives of two or more persons, with or without the continuance of the full Annuity during the life or lives of the survivor, or survivors.

Reversionary Annuities, which are such as are deferred until the death of one of the parties nominated in the Annuity Deeds, and to be received by the survivor.

Contingent Annuities or such as are to be received by one of two or more persons, provided he is the longer liver.

Certain Life Annuities are those which are to be received at the most for only a limited time, but which may previously terminate on the death of the nominee.

Deferred Life Annuities are such as are to commence after a given period, provided the party is then alive.

The present value of a Life Annuity, is dependent upon the three following circumstances.

1st—The Probability of the continuance of the Annuity.

2d—The Rate of Interest or value of money.

3d—The Periods at which the Annuity is to be paid.

The second and third of these data need only little observation. The value of money is frequently altering, but in the granting of Annuities, it is seldom reckoned higher than 4 per cent, or lower than 3 per cent; unless it is where recourse is had to this expedient of raising money by private individuals, in which case very high rates are often given. The periods at which the money becomes due occasions only a trifling difference in the value. They are generally made payable half yearly, though sometimes they are payable quarterly.

The first of these circumstances, or the probability of the duration of life, is calculated from Tables which have been formed in different places of Europe, where from a certain number of human beings whose births have been recorded, an estimation has been made of the numbers living at different ages.

Of these Tables the most celebrated, are those formed at Northampton, London, Paris, and Sweden. The former are those which are usually referred to in Annuity Calculations in this country, but their account of the duration of life is more favourable than that of the others, or what is contended to be the truth; and thus by increasing the probability of its continuance, a greater amount is required for the Annuity, and its theory is consequently in favour of the granter.

As this is by far too voluminous a subject to be fully discussed in this Work, we must refer those who desire to properly investigate it, to the productions of De Moivre, Simpson, Price, and Morgan, in which from the difference of opinion that has existed between these celebrated Authors, the calculations have undergone a very complete examination.

The following is the Northampton Table of the numbers living at the end of each year, out of a certain number (11650) born; the decrements or numbers yearly dying; and the expectation or the probability of duration, which is thus calculated.

Suppose the given age be 92, the number of the persons living at that age, and at the remaining periods are 24, 16, 9, 4, 1, amounting to 54, and this divided by 24, the average number living at that period gives $2\frac{1}{4}$, from which $\frac{1}{2}$ being subtracted, there remains $1\frac{3}{4}$ or 1.75 for the expectation, or average duration of lives at the age of 92.

NORTHAMPTON TABLE (VI.)

OF THE PROBABILITIES OF THE DURATION OF HUMAN LIFE.

Age.	Living.	Dying.	Expectation.	Age.	Living.	Dying.	Expectation.
0	11650	3000	25.18	49	2936	79	18.49
1	8650	1367	32.74	50	2857	81	17.99
2	7283	502	37.79	51	2776	82	17.50
3	6781	335	39.55	52	2694	82	17.02
4	6446	197	40.58	53	2612	82	16.54
5	6249	184	40.84	54	2530	82	16.06
6	6065	140	41.07	55	2448	82	15.58
7	5925	110	41.03	56	2366	82	15.10
8	5815	80	40.79	57	2284	82	14.63
9	5735	60	40.36	58	2202	82	14.15
10	5675	52	39.78	59	2120	82	13.68
11	5623	50	39.14	60	2038	82	13.21
12	5573	50	38.49	61	1956	82	12.75
13	5523	50	37.83	62	1874	81	12.28
14	5473	50	37.17	63	1793	81	11.81
15	5423	50	36.51	64	1712	80	11.35
16	5373	53	35.85	65	1632	80	10.88
17	5320	58	35.20	66	1552	80	10.42
18	5262	63	34.58	67	1472	80	9.96
19	5199	67	33.99	68	1392	80	9.50
20	5132	72	33.43	69	1312	80	9.05
21	5060	75	32.90	70	1232	80	8.60
22	4985	75	32.39	71	1152	80	8.17
23	4910	75	31.88	72	1072	80	7.74
24	4835	75	31.36	73	992	80	7.33
25	4760	75	30.85	74	912	80	6.92
26	4685	75	30.33	75	832	80	6.54
27	4610	75	29.82	76	752	77	6.18
28	4535	75	29.30	77	675	73	5.83
29	4460	75	28.79	78	602	68	5.48
30	4385	75	28.27	79	534	65	5.11
31	4310	75	27.76	80	469	63	4.75
32	4235	75	27.24	81	406	60	4.41
33	4160	75	26.72	82	346	57	4.09
34	4085	75	26.20	83	289	55	3.80
35	4010	75	25.68	84	234	48	3.58
36	3935	75	25.16	85	186	41	3.37
37	3860	75	24.64	86	145	34	3.19
38	3785	75	24.12	87	111	28	3.01
39	3710	75	23.60	88	83	21	2.86
40	3635	76	23.08	89	62	16	2.66
41	3559	77	22.56	90	46	12	2.41
42	3482	78	22.04	91	34	10	2.09
43	3404	78	21.54	92	24	8	1.75
44	3326	78	21.03	93	16	7	1.37
45	3248	78	20.52	94	9	5	1.05
46	3170	78	20.02	95	4	3	0.75
47	3092	78	19.51	96	1	1	0.50
48	3014	78	19.00				

TO CALCULATE THE VALUE OF A LIFE ANNUITY FROM THE PRECEDING TABLE.

It is evident that the present value of a sum of money to be received at the end of a year, dependent upon the continuance of a life during the whole of that year, must differ from the present value of a certain receipt of the money, according to the probability of the person's living to the end of that time. Now in the preceding Table, it appears that there is no calculable probability, of a person aged 96 living for another year; and therefore the value at that period is set down at 0; at 95, as out of 4 persons, only 1 was alive at the end of the year, the probability of living 1 year is as 1 to 4, or $\frac{1}{4}$; and if we reckon the rate of the interest to be 5 per cent, the present worth of £1 for 1 year will be £.9524; 1-4th of which gives £.2381, or nearly 4*s* 9*d*, for the present value of an Annuity of £1, granted to a person of this age; or in other words, taking the chance of his living to the end of the year, and then to be paid £1, the sum of 4*s* 9*d* would be a sufficient consideration.

To continue the calculation, at 94, the probability of a person's living to 95, is as; 4 to 9, or $\frac{4}{9}$; therefore there are

£1 × $\frac{4}{9}$ × .9524 = .4233 for the probability of this year.
£.2381 × $\frac{4}{9}$ × .9524 = .1007 for the probability of the next year.

Making £.5240 or nearly 10*s* 6*d*, for the present

value of an Annuity of £1 granted to a person aged 94. For, the present worth of a chance of receiving £1 at the end of 1 year, or at the age of 95 is 4-9ths of £.9524 and the same for a chance of receiving £1 at the end of another year, is the present worth of 4-9ths of its value at the end of the first year; and as the present value of £1 for 1 year is £.9524, this number forms a multiplier to find the present worth for 1 year of any other sum.

It is thought proper to give the two parts of this calculation, separate, in order to be better able to explain them; but they may be performed at once in the following form.

$$(£1 + £.2381) \times \tfrac{4}{9} \times .9524 = £.524.$$

So for 93 years, as the probability of duration is 9-16 ths,
$(£1 + £.524) \times \tfrac{9}{16} \times .9524 = £ .816$ or 16 *s* 4 *d* nearly.
For 92 years, as the probability of duration is 16-24 ths or 2-3 rds,
$(£1 + £.816) \times \tfrac{2}{3} \times .9524 = £ 1.153$ or £1 3 *s* 1 *d*

In this manner the following Table is composed, the numbers in which may be considered either as the present values of a yearly Annuity of £1, as the number of years purchase which they are worth, or as multipliers to find the value of any other proposed Annuity.

Supposing that the Annuity is to be received at the end of each half year instead of each year, the value may be very nearly determined by adding 1-5th of 1 year's purchase or of the proposed yearly Annuity.

It should further be observed, that it is usually considered, that the present value of an Annuity, is the same with that of a yearly payment, certain for the number of years expressed by the expectation; but this is far from being the case, and the difference principally arises from the expectation being a sort of a medium time of the duration of a life, while the average amount of two present worths, is not the same as that for the average time.

TABLE VII.

OF THE VALUE OF AN ANNUITY OF £1 FOR A SINGLE LIFE, ACCORDING TO THE PROBABILITIES OF THE PRECEDING TABLE.

Ages.	3 per Cent.	4 per Cent.	5 per Cent.	Ages.	3 per Cent.	4 per Cent.	5 per Cent
1	16.021	13.465	11.563	49	12.693	11.475	10.443
2	18.599	15.633	13.420	50	12.436	11.264	10.269
3	19.575	16.462	14.135	51	12.183	11.057	10.097
4	20.210	17.010	14.613	52	11.930	10.849	9.925
5	20.473	17.248	14.827	53	11.674	10.637	9.748
6	20.727	17.482	15.041	54	11.414	10.421	9.567
7	20.853	17.611	15.166	55	11.150	10.201	9.382
8	20.885	17.662	15.226	56	10.882	9.977	9.193
9	20.812	17.625	15.210	57	10.611	9.749	8.999
10	20.663	17.523	15.139	58	10.337	9.516	8.801
11	20.480	17.393	15.043	59	10.058	9.280	8.599
12	20.283	17.251	14.937	60	9.777	9.039	8.392
13	20.081	17.103	14.826	61	9.493	8.795	8.181
14	19.872	16.950	14.710	62	9.205	8.547	7.966
15	19.657	16.791	14.588	63	8.910	8.291	7.742
16	19.435	16.625	14.460	64	8.611	8.030	7.514
17	19.218	16.462	14.334	65	8.304	7.761	7.276
18	19.013	16.309	14.217	66	7.994	7.488	7.034
19	18.820	16.167	14.108	67	7.682	7.211	6.787
20	18.638	16.033	14.007	68	7.367	6.930	6.536
21	18.470	15.912	13.917	69	7.051	6.647	6.281
22	18.311	15.797	13.833	70	6.734	6.361	6.023
23	18.148	15.680	13.746	71	6.418	6.075	5.764
24	17.983	15.560	13.658	72	6.103	5.790	5.504
25	17.814	15.438	13.567	73	5.794	5.507	5.245
26	17.642	15.312	13.473	74	5.491	5.230	4.990
27	17.467	15.184	13.377	75	5.199	4.962	4.744
28	17.289	15.053	13.278	76	4.925	4.710	4.511
29	17.107	14.918	13.177	77	4.652	4.457	4.277
30	16.922	14.781	13.072	78	4.372	4.197	4.035
31	16.732	14.639	12.965	79	4.077	3.921	3.776
32	16.540	14.495	12.854	80	3.781	3.643	3.515
33	16.343	14.347	12.740	81	3.499	3.377	3.263
34	16.142	14.195	12.623	82	3.229	3.122	3.020
35	15.938	14.039	12.502	83	2.982	2.887	2.797
36	15.729	13.880	12.377	84	2.793	2.708	2.627
37	15.515	13.716	12.249	85	2.620	2.543	2.471
38	15.298	13.548	12.116	86	2.462	2.393	2.328
39	15.075	13.375	11.979	87	2.312	2.251	2.193
40	14.848	13.197	11.837	88	2.185	2.131	2.080
41	14.620	13.018	11.695	89	2.013	1.967	1.924
42	14.391	12.838	11.551	90	1.794	1.758	1.723
43	14.162	12.657	11.407	91	1.501	1.474	1.447
44	13.929	12.472	11.258	92	1.190	1.171	1.153
45	13.692	12.283	11.105	93	.839	.827	.816
46	13.450	12.089	10.947	94	.536	.530	.524
47	13.203	11.890	10.784	95	.242	.240	.238
48	12.951	11.685	10.616	96	.000	.000	.000

From this Table, we may determine the rate per cent of Annuities at given ages, in the manner of the following Example.

Example 1.

To find the per centage allowance, or the Annuity which £100 will purchase, for a life of 88 years, at 5 per cent.

The tabular number for 88 years at 5 per cent is 2.080

£		£		£
If 2.08	produce	1	what will	100 produce?

£	£	£	*s*	*d*	
2.08)	100.00 (	48.077 =	48	1	6 nearly.
	832				
	1680				
	1664				
	1600				
	1456				
	1440				

So for a life of 40 years, at the same rate, the tabular number being 11.837,

£		£		£
If 11.837	produce	1	what will	100 produce?

Answer £8 9 0 nearly.

While in the same manner at 4 and 3 per cent, with the tabular numbers 13.197 and 14.848, the rates per cent are £7 11*s* 6*d* and £6 14*s* 8*d*.

Example 2.

To find the present value of an Annuity, receivable during the life of a person aged 42 years, from the interest of £ 4500 at 3 per Cent, the value of the money laid out being estimated at 5 per Cent.

£	
3	Interest on £ 100.
£ 135	do on £ 4500.

From Table 7, the number of years purchase to be given for a Life Annuity at the age of 42, and at the rate of 5 per Cent, is 11.551.

£	
135	
11.551	
£ 1559,385	= £ 1559 7 9.

Thus the value required is about £ 1560, according to the preceding principles.

If the interest of the money be estimated at only 3 per Cent, the tabular number will be — 14.391

135

and the value will be £ 1942.785 = £ 1942.15.8

In this, as in all other annuity cases, it is to the advantage of the granter of the Annuity, to reckon the interest at a low rate, while the purchaser is concerned in making it as high as possible.—The medium of the above rates, or 4 per Cent, is that which is generally considered the most correct in private agreements.

Example 3.

To find the amount of an Annuity for a life of 27, to be exchanged for a certain Annuity of £60 for 40 years, reckoning 4 per cent upon the purchase, and 5 per cent upon the sale.

Tabular present value of £1 per Annum,
For 40 years at 5 per cent..... £17.159086 (Tab. 4.)
60

Present value of the certain Annuity .. £ 1029.545

Tabular value of 1 £ per Annum,
Upon a life of 27 years at 4 per cent.... £ 15.184 (Tab. 7.)

	£		£		£	
If	15.184	produce	1	what will	1029.545	produce?

```
                £          £
15.184 )  1029.545  (  67.804
            91104
          ---------   £67  16  1 Answer.
            118505
            106288
          ---------
             122170
             121472
            ---------
                69800
```

It appears from this calculation that an increased income would be obtained by this exchange, and should the nominee live 40 more years or beyond the age of 67, a further provision would be made for his subsistence; but in these calculations it is not usual to allow more than 3 per cent upon the produce of the certain Annuity, and then in the above, the Life Annuity in exchange, would not be granted for quite so much as £59. The divisor at this rate being 17.467.

TO FIND THE PRESENT VALUE OF A CERTAIN LIMITED ANNUITY, TO BE RECEIVED AFTER THE EXTINCTION OF A GIVEN LIFE.

Directions.—From the value of the Perpetuity, subtract the value of the given life, and say, as the perpetuity is to the remainder, so is the number of years purchase for the present value of the certain Annuity, to the number of years purchase for the reversion.

Example.

To find the value of an Annuity of £ 200, certain for 30 years, and receivable after the death of a person aged 50, allowing an Interest of 4 per Cent.

The value of a Perpetuity at 4 per Cent .. 25.—
a life of 50 years ..... 11.264 (Tab. 7)

Remainder ..... 13.736 *

Present value of £ 1 per Annum for 30 years 17.292 (Tab. 2.)

As 25 is to 13.736 so is 17.292
to 9.5 the number of years purchase,
£ 200
9.5

Present Value £ 1900 of the Reversion.

The above calculation may be thus performed.

Value of the life 11.264 × .04 = .45056
1 — .45056 = .54944
17.292
.9500916
200
As above ... £ 1900.—

* This would be the required value if the Annuity were perpetual.

TO FIND THE PRESENT VALUE OF AN ANNUITY UPON A SINGLE LIFE, DEFERRED FOR A GIVEN NUMBER OF YEARS.

Directions.—Find the value of an Annuity of £1, for the period of the given age with the number of the years deferred: multiply this sum by the tabular number (in Table II.) answering to the present worth of £1 for the given deferred time; and this product by the number expressing the probability of the continuance of the given life; and then the last product will be the present value of an Annuity of £1, from which the present value of the given Annuity may be obtained.

Example.

To find the value of a Life Annuity of £500, secured upon freehold property, receivable after the termination of a lease of which there are 7 years to run; the age of the person being 32, and the interest of money being reckoned at 4 per cent.

Value of an Annuity for the age of 39 years	13.375	(Table 7.)
Present worth of £1 for 7 years.....	.759918	(Table 2.)
Probability for 32 and 39	$\frac{3710}{4235}$	(Table 6.)

$$\frac{£\,13.375 \times .759918 \times 3710}{4235} = £\,8.90391$$

£
8.90391
500

Value required £4451.95500 or nearly £4452.

In this calculation the three things to be taken into consideration, are, 1st. The value of the Annuity to be granted when the person arrives at 39 years of age; 2dly. The sum now to be laid out to purchase the Annuity at that period; and 3dly. The probability of his living to that age; which is calculated from the number living at the age of 39, compared with those living at the age of 32.

TO FIND THE PRESENT VALUE OF AN ANNUITY UPON A GIVEN LIFE, FOR A CERTAIN GIVEN NUMBER OF YEARS.

Find, from the directions of the preceding Example, the value of the Annuity of £ 1, for the remainder of the given life, or after the proposed deferred period, and subtract it from the value of the Annuity of £ 1 for the whole life; the remainder is the value of an Annuity of £ 1 for the proposed period, from which find the value of the given Annuity.

Example.

To find the present value of an Annuity of £ 200 for the term of 10 years, and dependent upon the continuance of the life of a person aged 50 years. Interest being reckoned at 4 per cent.

Present value of a life of 60 years	9.039	(Tab. 7.)
Present value of £ 1 payable in 10 years	.675564	(Tab. 2.)
Probability for 50 and 60	$\frac{2038}{2857}$	(Tab. 6.)

$$\frac{£\,9.039 \times .675564 \times 2038}{2857} = £\,4.356$$

Present value of a life of 50	11.264
less, the above value	4.356
Value for 10 years of an Annuity of £ 1....	6.908
	200
Required value for the Annuity of £ 200 ..	£ 1381.6

TO FIND THE PRESENT VALUE OF AN ANNUITY DURING THE CONTINUANCE OF TWO JOINT LIVES.

In the performance of these calculations, we have to take into consideration, the combined probabilities of the duration of the two lives, with the present value of each future payment.

Thus commencing as before with the latest period of value, and supposing the two lives to be of the same age;

£ 1 $\times \frac{1}{4} \times \frac{1}{4} \times .9524 = .059$ each being 95 years.
£ 1.059 $\times \frac{4}{9} \times \frac{4}{9} \times .9524 = .199$ ..... 94 years.
£ 1.199 $\times \frac{9}{16} \times \frac{9}{16} \times .9524 = .361$ ..... 93 years.

In which, as before, the fractional numbers are taken from Table 6, from the column of the numbers of the living; the number to the given age being the denominator, and that to the following age being the numerator.—The decimal number is the multiplier to find the present worth for 1 year, at 5 per Cent.

In this manner, the first of the following Tables is calculated, and the succeeding ones are thus formed.

As with the difference of 5 years.

£ 1 $\times \frac{1}{4} \times \frac{34}{46} \times .9524 = .175$ for 95 and 90 years.
£ 1.175 $\times \frac{4}{9} \times \frac{46}{62} \times .9524 = .369$ for 94 and 89 years.

and with the difference of ten years.

£ 1 $\times \frac{1}{4} \times \frac{145}{186} \times .9524 = .185$ for 95 and 85 years.
£ 1.185 $\times \frac{4}{9} \times \frac{186}{234} \times .9524 = .398$ for 94 and 84 years, &c.

and in this manner these and other Tables are continued, the first fractional multiplier upon £ 1, with or without the last amount, being the probability of the first life, and the second the probability of the other.

TABLE VIII.

OF THE VALUE OF AN ANNUITY UPON TWO JOINT LIVES OF EQUAL AGES.

Common Age.	3 per Cent.	4 per Cent.	5 per Cent.	Common Age.	3 per Cent.	4 per Cent.	5 per Cent.
1	9.491	8.252	7.287	49	8.931	8.266	7.686
2	12.789	11.107	9.793	50	8.714	8.081	7.522
3	14.196	12.325	10.862	51	8.507	7.900	7.366
4	15.181	13.185	11.621	52	8.304	7.723	7.213
5	15.638	13.591	11.984	53	8.099	7.544	7.056
6	16.099	14.005	12.358	54	7.891	7.362	6.897
7	16.375	14.224	12.596	55	7.681	7.179	6.735
8	16.510	14.399	12.731	56	7.470	6.993	6.571
9	16.483	14.396	12.744	57	7.256	6.805	6.404
10	16.339	14.277	12.665	58	7.041	6.614	6.234
11	16.142	14.133	12.546	59	6.824	6.421	6.062
12	15.926	13.966	12.411	60	6.606	6.226	5.888
13	15.702	13.789	12.268	61	6.387	6.030	5.712
14	15.470	13.604	12.118	62	6.166	5.831	5.533
15	15.229	13.411	11.960	63	5.938	5.626	5.347
16	14.979	13.212	11.793	64	5.709	5.417	5.158
17	14.737	13.019	11.630	65	5.471	5.201	4.960
18	14.516	12.841	11.483	66	5.231	4.982	4.759
19	14.316	12.679	11.351	67	4.990	4.760	4.555
20	14.133	12.535	11.232	68	4.747	4.537	4.348
21	13.974	12.409	11.131	69	4.504	4.312	4.140
22	13.830	12.293	11.042	70	4.261	4.087	3.930
23	13.683	12.179	10.951	71	4.020	3.862	3.719
24	13.534	12.062	10.858	72	3.781	3.639	3.510
25	13.383	11.944	10.764	73	3.548	3.421	3.304
26	13.230	11.822	10.667	74	3.324	3.211	3.105
27	13.074	11.699	10.567	75	3.114	3.015	2.917
28	12.915	11.573	10.466	76	2.920	2.833	2.750
29	12.754	11.445	10.362	77	2.741	2.656	2.583
30	12.589	11.313	10.255	78	2.550	2.470	2.410
31	12.422	11.179	10.146	79	2.338	2.271	2.217
32	12.252	11.042	10.034	80	2.122	2.068	2.018
33	12.079	10.902	9.919	81	1.917	1.869	1.827
34	11.902	10.759	9.801	82	1.719	1.681	1.642
35	11.722	10.612	9.680	83	1.538	1.510	1.472
36	11.539	10.462	9.555	84	1.416	1.387	1.357
37	11.351	10.307	9.427	85	1.309	1.282	1.256
38	11.160	10.149	9.294	86	1.218	1.195	1.171
39	10.964	9.986	9.158	87	1.141	1.124	1.098
40	10.764	9.820	9.016	88	1.103	1.081	1.063
41	10.565	9.654	8.876	89	1.036	1.015	1.001
42	10.369	9.491	8.737	90	.938	.922	.909
43	10.175	9.326	8.599	91	.769	.756	.748
44	9.978	9.160	8.457	92	.591	.583	.576
45	9.776	8.990	8.312	93	.369	.365	.361
46	9.571	8.815	8.162	94	.203	.201	.199
47	9.362	8.637	8.008	95	.060	.060	.059
48	9.149	8.453	7.849	96	.000	.000	.000

TABLE IX.

OF THE VALUE OF AN ANNUITY UPON TWO JOINT LIVES, DIFFERENCE OF AGE 5 YEARS.

Ages.	3 per Cent.	4 per Cent.	5 per Cent.	Ages.	3 per Cent.	4 per Cent.	5 per Cent
1– 6	12.347	10.741	9.479	47–52	8.790	8.147	7.582
2– 7	14.461	12.581	11.100	48–53	8.579	7.965	7.424
3– 8	15.300	13.319	11.755	49–54	8.366	7.780	7.262
4– 9	15.809	13.775	12.165	50–55	8.152	7.593	7.098
5–10	15.974	13.933	12.315	51–56	7.941	7.409	6.936
6–11	16.110	14.068	12.447	52–57	7.730	7.225	6.774
7–12	16.137	14.111	12.498	53–58	7.518	7.039	6.609
8–13	16.089	14.089	12.492	54–59	7.304	6.850	6.442
9–14	15.957	13.992	12.421	55–60	7.088	6.659	6.272
10–15	15.762	13.841	12.302	56–61	6.870	6.465	6.100
11–16	15.538	13.664	12.158	57–62	6.651	6.270	5.925
12–17	15.308	13.480	12.009	58–63	6.427	6.070	5.744
13–18	15.086	13.303	11.864	59–64	6.201	5.867	5.561
14–19	14.870	13.130	11.723	60–65	5.970	5.658	5.372
15–20	14.660	12.961	11.585	61–66	5.737	5.447	5.180
16–21	14.457	12.799	11.452	62–67	5.503	5.285	4.986
17–22	14.265	12.646	11.327	63–68	5.265	5.017	4.786
18–23	14.082	12.500	11.209	64–69	5.025	4.798	4.585
19–24	13.908	12.361	11.096	65–70	4.783	4.573	4.378
20–25	13.741	12.229	10.989	66–71	4.540	4.349	4.169
21–26	13.584	12.105	10.890	67–72	4.298	4.124	3.960
22–27	13.433	11.987	10.796	68–73	4.059	3.901	3.752
23–28	13.280	11.866	10.699	69–74	3.825	3.683	3.547
24–29	13.124	11.743	10.600	70–75	3.599	3.471	3.347
25–30	12.966	11.618	10.499	71–76	3.386	3.270	3.159
26–31	12.805	11.489	10.396	72–77	3.176	3.070	2.971
27–32	12.641	11.359	10.289	73–78	2.963	2.869	2.780
28–33	12.474	11.225	10.181	74–79	2.743	2.659	2.580
29–34	12.304	11.088	10.069	75–80	2.526	2.448	2.381
30–35	12.131	10.948	9.954	76–81	2.325	2.258	2.195
31–36	11.955	10.805	9.837	77–82	2.131	2.077	2.013
32–37	11.775	10.659	9.716	78–83	1.947	1.899	1.838
33–38	11.592	10.508	9.591	79–84	1.793	1.751	1.750
34–39	11.404	10.354	9.463	80–85	1.645	1.608	1.573
35–40	11.213	10.196	9.331	81–86	1.511	1.478	1.447
36–41	11.021	10.037	9.198	82–87	1.385	1.356	1.329
37–42	10.828	9.877	9.062	83–88	1.284	1.259	1.235
38–43	10.635	9.716	8.927	84–89	1.188	1.164	1.145
39–44	10.437	9.550	8.787	85–90	1.074	1.054	1.038
40–45	10.236	9.381	8.643	86–91	.921	.902	.892
41–46	10.033	9.210	8.497	87–92	.756	.738	.734
42–47	9.829	9.037	8.350	88–93	.562	.554	.547
43–48	9.624	8.862	8.200	89–94	.377	.373	.369
44–49	9.414	8.683	8.046	90–95	.179	.177	.175
45–50	9.204	8.503	7.891	91–96	.000	.000	.000
46–51	8.997	8.326	7.737				

TABLE X.

OF THE VALUE OF AN ANNUITY ON TWO JOINT LIVES, DIFFERENCE OF AGE 10 YEARS.

Ages.	3 per Cent.	4 per Cent.	5 per Cent.	Ages.	3 per Cent.	4 per Cent.	5 per Cent.
1–11	12.346	10.782	9.544	44–54	8.767	8.130	7.569
2–12	14.239	12.438	11.010	45–55	8.557	7.948	7.411
3–13	14.895	13.019	11.528	46–56	8.344	7.763	7.249
4–14	15.287	13.374	11.850	47–57	8.127	7.574	7.084
5–15	15.391	13.479	11.954	48–58	7.907	7.382	6.915
6–16	15.486	13.578	12.052	49–59	7.684	7.186	6.742
7–17	15.490	13.599	12.083	50–60	7.461	6.989	6.568
8–18	15.436	13.569	12.070				
9–19	15.316	13.482	12.006	51–61	7.240	6.795	6.395
10–20	15,151	13.355	11.906	52–62	7.021	6.600	6.222
				53–63	6.795	6.399	6.042
11–21	14.974	13.217	11.797	54–64	6.568	6.196	5.860
12–22	14.795	13.078	11.686	55–65	6.334	5.986	5.671
13–23	14.612	12.934	11.570	56–66	6.098	5.774	5.479
14–24	14.424	12.784	11.450	57–67	5.860	5.559	5.283
15–25	14.230	12.630	11.324	58–68	5.621	5.341	5.084
16–26	14.030	12.470	11.193	59–69	5.380	5.121	4.883
17–27	13.832	12.311	11.063	60–70	5.139	4.900	4.680
18–28	13.642	12.158	10.939				
19–29	13.461	12.013	10.820	61–71	4.898	4.679	4.476
20–30	13.286	11.873	10.707	62–72	4.659	4.458	4.272
				63–73	4.420	4.236	4.066
21–31	13.121	11.742	10.600	64–74	4.186	4.019	3.864
22–32	12.961	11.615	10.498	65–75	3.958	3.806	3.665
23–33	12.798	11.485	10.393	66–76	3.743	3.606	3.477
24–54	12.632	11.352	10.285	67–77	3.529	3.405	3.289
25–35	12.463	11.217	10.175	68–78	3.310	3.199	3.095
26–36	12.291	11.078	10.062	69–79	3.077	2.979	2.887
27–37	12.116	10.936	9.946	70–80	2.843	2.757	2.675
28–38	11.937	10.791	9.826				
29–39	11.755	10.642	9.703	71–81	2.618	2.542	2.470
30–40	11.568	10.490	9.576	72–82	2.401	2.334	2.271
				73–83	2.199	2.141	2.085
31–41	11.382	10.336	9.448	74–84	2.043	1.991	1.941
32–42	11.195	10.182	9.320	75–85	1.903	1.856	1.811
33–43	11.007	10.027	9.190	76–86	1.781	1.739	1.699
34–44	10.817	9.869	9.058	77–87	1.670	1.633	1.597
35–45	10.622	9.706	8.921	78–88	1.580	1.546	1.514
36–46	10.424	9.540	8.781	79–89	1.456	1.427	1.400
37–47	10.221	9.370	8.636	80–90	1.302	1.278	1.255
38–48	10.014	9.195	8.487				
39–49	9.803	9.015	8.333	81–91	1.096	1.078	1.061
40–50	9.590	8.834	8.177	82–92	.877	.864	.852
				83–93	.622	.614	.606
41–51	9.383	8.658	8.025	84–94	.408	.403	.398
42–52	9.179	8.483	7.875	85–95	.189	.187	.185
43–53	8.975	8.308	7.724	86–96	.000	.000	.000

TABLE XI.

OF THE VALUE OF AN ANNUITY ON TWO JOINT LIVES, DIFFERENCE OF AGE 15 YEARS.

Ages.	3 per Cent.	4 per Cent.	5 per Cent.	Ages.	3 per Cent.	4 per Cent.	5 per Cent.
1–16	11.864	10.406	9.243	42–57	8.439	7.848	7.326
2–17	13.659	11.981	10.642	43–58	8.222	7.660	7.162
3–18	14.277	12.531	11.134	44–59	8.003	7.469	6.994
4–19	14.657	12.876	11.447	45–60	7.781	7.274	6.822
5–20	14.776	12.993	11.561	46–61	7.556	7.076	6.648
6–21	14.904	13.121	11.685	47–62	7.328	6.875	6.469
7–22	14.950	13.178	11.748	48–63	7.093	6.667	6.283
8–23	14.929	13.178	11.761	49–64	6.854	6.454	6.093
9–24	14.834	13.112	11.715	50–65	6.611	6.236	5.897
10–25	14.683	12.998	11.627	51–66	6.369	6.019	5.701
11–26	14.508	12.861	11.519	52–67	6.127	5.801	5.504
12–27	14.323	12.715	11.402	53–68	5.884	5.580	5.303
13–28	14.132	12.564	11.280	54–69	5.638	5.357	5.100
14–29	13.936	12.408	11.153	55–70	5.391	5.132	4.893
15–30	13.734	12.246	11.021	56–71	5.145	4.905	4.685
16–31	13.527	12.078	10.883	57–72	4.899	4.679	4.477
17–32	13.320	11.911	10.746	58–73	4.656	4.455	4.269
18–33	13.121	11.750	10.613	59–74	4.418	4.234	4.064
19–34	12.930	11.595	10.486	60–75	4.189	4.021	3.866
20–35	12.744	11.445	10.363	61–76	3.974	3.821	3.679
21–36	12.567	11.302	10.246	62–77	3.760	3.621	3.492
22–37	12.394	11.163	10.132	63–78	3.538	3.414	3.297
23–38	12.218	11.020	10.015	64–79	3.303	3.192	3.088
24–39	12.038	10.874	9.895	65–80	3.063	2.965	2.873
25–40	11.854	10.725	9.771	66–81	2.833	2.746	2.664
26–41	11.670	10.574	9.647	67–82	2.610	2.533	2.461
27–42	11.486	10.423	9.522	68–83	2.403	2.336	2.272
28–43	11.302	10.272	9.396	69–84	2.244	2.183	2.126
29–44	11.114	10.117	9.267	70–85	2.097	2.042	1.991
30–45	10.923	9.959	9.135	71–86	1.963	1.914	1.867
31–46	10.728	9.797	8.998	72–87	1.838	1.794	1.753
32–47	10.530	9.631	8.858	73–88	1.736	1.697	1.660
33–48	10.327	9.461	8.714	74–89	1.603	1.570	1.538
34–49	10.120	9.286	8.565	75–90	1.440	1.413	1.387
35–50	9.912	9.110	8.415	76–91	1.221	1.200	1.180
36–51	9.707	8.937	8.267	77–92	.985	.970	.955
37–52	9.503	8.763	8.119	78–93	.706	.697	.688
38–53	9.296	8.586	7.966	79–94	.458	.453	.448
39–54	9.085	8.406	7.810	80–95	.210	.208	.206
40–55	8.870	8.221	7.651	81–96	.000	.000	.000
41–56	8.655	8.035	7.489				

TABLE XII.

OF THE VALUE OF AN ANNUITY ON TWO JOINT LIVES, DIFFERENCE OF AGE 20 YEARS.

Ages.	3 per Cent.	4 per Cent.	5 per Cent.	Ages.	3 per Cent.	4 per Cent.	5 per Cent.
1–21	11.413	10.053	8.961	39–59	8.253	7.689	7.189
2–22	13.172	11.605	10.344	40–60	8.025	7.490	7.015
3–23	13.794	12.161	10.843	41–61	7.796	7.290	6.838
4–24	14.178	12.511	11.163	42–62	7.567	7.088	6.660
5–25	14.301	12.633	11.281	43–63	7.332	6.881	6.477
6–26	14.420	12.754	11.400	44–64	7.095	6.671	6.289
7–27	14.451	12.798	11.452	45–65	6.850	6.453	6.094
8–28	14.417	12.786	11.455	46–66	6.602	6.230	5.894
9–29	14.310	12.710	11.401	47–67	6.351	6.004	5.690
10–30	14.150	12.586	11.304	48–68	6.096	5.774	5.481
11–31	13.965	12.441	11.188	49–69	5.839	5.541	5.268
12–32	13.770	12.286	11.062	50–70	5.582	5.306	5.054
13–33	13.570	12.125	10.932	51–71	5.328	5.074	4.841
14–34	13.363	11.959	10.796	52–72	5.077	4.845	4.630
15–35	13.151	11.787	10.655	53–73	4.829	4.614	4.417
16–36	12.932	11.609	10.507	54–74	4.585	4.389	4.208
17–37	12.714	11.430	10.358	55–75	4.350	4.171	4.006
18–38	12.502	11.257	10.214	56–76	4.129	3.966	3.815
19–39	12.297	11.089	10.074	57–77	3.908	3.761	3.623
20–40	12.096	10.924	9.937	58–78	3.682	3.549	3.424
21–41	11.906	10.768	9.809	59–79	3.440	3.322	3.210
22–42	11.723	10.619	9.685	60–80	3.197	3.092	2.992
23–43	11.540	10.470	9.562	61–81	2.964	2.870	2.782
24–44	11.354	10.317	9.435	62–82	2.739	2.656	2.578
25–45	11.164	10.160	9.304	63–83	2.530	2.457	2.387
26–46	10.970	10.000	9.170	64–84	2.371	2.305	2.242
27–47	10.773	9.836	9.032	65–85	2.223	2.163	2.107
28–48	10.572	9.667	8.890	66–86	2.089	2.035	1.984
29–49	10.366	9.495	8.744	67–87	1.963	1.915	1.870
30–50	10.160	9.321	8.596	68–88	1.860	1.817	1.777
31–51	9.957	9.151	8.451	69–89	1.722	1.685	1.650
32–52	9.756	8.980	8.306	70–90	1.545	1.515	1.486
33–53	9.550	8.806	8.157	71–91	1.303	1.280	1.259
34–54	9.342	8.629	8.005	72–92	1.044	1.028	1.012
35–55	9.131	8.448	7.849	73–93	.743	.733	.723
36–56	8.916	8.264	7.690	74–94	.480	.474	.469
37–57	8.699	8.076	7.527	75–95	.219	.217	.215
38–58	8.477	7.884	7.360	76–96	.000	.000	.000

TABLE XIII.

OF THE VALUE OF AN ANNUITY ON TWO JOINT LIVES, DIFFERENCE OF AGE 25 YEARS.

Ages.	3 per Cent.	4 per Cent.	5 per Cent.	Ages.	3 per Cent.	4 per Cent.	5 per Cent.
1–26	11.037	9.770	8.742	37–62	7.765	7.265	6.819
2–27	12.722	11.264	10.080	38–63	7.525	7.053	6.631
3–28	13.307	11.790	10.555	39–64	7.281	6.838	6.440
4–29	13.661	12.116	10.855	40–65	7.030	6.614	6.240
5–30	13.762	12.220	10.959	41–66	6.776	6.388	6.037
6–31	13.859	12.322	11.062	42–67	6.522	6.159	5.831
7–32	13.871	12.350	11.100	43–68	6.266	5.929	5.622
8–33	13.820	12.323	11.090	44–69	6.008	5.696	5.411
9–34	13.698	12.234	11.024	45–70	5.749	5.460	5.195
10–35	13.525	12.098	10.916	46–71	5.488	5.222	4.978
11–36	13.328	11.941	10.788	47–72	5.228	4.983	4.758
12–37	13.120	11.773	10.651	48–73	4.970	4.746	4.539
13–38	12.906	11.600	10.509	49–74	4.716	4.511	4.322
14–39	12.686	11.420	10.360	50–75	4.472	4.285	4.112
15–40	12.459	11.234	10.205	51–76	4.245	4.074	3.916
16–41	12.229	11.044	10.046	52–77	4.019	3.864	3.720
17–42	12.002	10.856	9.889	53–78	3.787	3.648	3.518
18–43	11.785	10.677	9.739	54–79	3.540	3.416	3.299
19–44	11.574	10.502	9.592	55–80	3.291	3.180	3.076
20–45	11.367	10.330	9.448	56–81	3.051	2.953	2.861
21–46	11.167	10.165	9.310	57–82	2.820	2.733	2.651
22–47	10.969	10.001	9.173	58–83	2.608	2.530	2.457
23–48	10.768	9.833	9.031	59–84	2.446	2.376	2.310
24–49	10.562	9.661	8.886	60–85	2.297	2.234	2.174
25–50	10.356	9.488	8.739	61–86	2.162	2.105	2.051
26–51	10.154	9.318	8.595	62–87	2.036	1.985	1.937
27–52	9.952	9.148	8.451	63–88	1.932	1.886	1.843
28–53	9.748	8.975	8.304	64–89	1.790	1.751	1.714
29–54	9.540	8.799	8.153	65–90	1.606	1.575	1.544
30–55	9.329	8.619	7.999	66–91	1.354	1.330	1.307
31–56	9.115	8.436	7.841	67–92	1.083	1.067	1.050
32–57	8.897	8.250	7.680	68–93	.770	.760	.750
33–58	8.677	8.060	7.515	69–94	.497	.491	.485
34–59	8.454	7.866	7.346	70–95	.227	.224	.222
35–60	8.227	7.669	7.174	71–96	.000	.000	.000
36–61	7.997	7.469	6.998				

TABLE XIV.

OF THE VALUE OF AN ANNUITY ON TWO JOINT LIVES, DIFFERENCE OF AGE 30 YEARS.

Ages.	3 per Cent.	4 per Cent.	5 per Cent.	Ages.	3 per Cent.	4 per Cent.	5 per Cent.
1-31	10.605	9.438	8.483	34-64	7.429	6.971	6.559
2-32	12.203	10.865	9.767	35-65	7.177	6.747	6.360
3-33	12.743	11.355	10.213	36-66	6.922	6.520	6.156
4-34	13.061	11.651	10.488	37-67	6.663	6.288	5.948
5-35	13.136	11.732	10.572	38-98	6.401	6.052	5.735
6-36	13.207	11.812	10.656	39-69	6.137	5.813	5.518
7-37	13.195	11.819	10.676	40-70	5.871	5.571	5.298
8-38	13.122	11.772	10.648				
9-39	12.981	11.665	10.565	41-71	5.605	5.329	5.076
10-40	12.791	11.513	10.442	42-72	5.341	5.087	4.854
				43-73	5.081	4.848	4.634
11-41	12.580	11.342	10.302	44-74	4.826	4.613	4.417
12-42	12.363	11.165	10.156	45-75	4.580	4.386	4.206
13-43	12.144	10.985	10.007	46-76	4.348	4.171	4.006
14-44	11.918	10.799	9.852	47-77	4.115	3.954	3.805
15-45	11.687	10.607	9.690	48-78	3.875	3.731	3.596
16-46	11.448	10.408	9.522	49-79	3.619	3.490	3.369
17-47	11.210	10.208	9.353	50-80	3.362	3.247	3.140
18-48	10.975	10.011	9.186				
19-49	10.746	9.818	9.021	51-81	3.117	3.015	2.920
20-50	10.523	9.630	8.861	52-82	2.882	2.792	2.707
				23-83	2.665	2.585	2.510
21-51	10.313	9.454	8.712	54-84	2.501	2.428	2.360
22-52	10.111	9.284	8.568	55-85	2.349	2.284	2.222
23-53	9.905	9.111	8.421	56-86	2.211	2.153	2.097
24-54	9.696	8.934	8.270	57-87	2.082	2.030	1.980
25-55	9.484	8.754	8.116	58-88	1.975	1.928	1.883
26-56	9.269	8.570	7.958	59-89	1.828	1.788	1.750
27-57	9.051	8.383	7.797	60-90	1.641	1.608	1.577
28-58	8.830	8.193	7.632				
29-59	8.605	7.999	7.464	61-91	1.382	1.358	1.334
30-60	8.378	7.802	7.292	62-92	1.105	1.088	1.071
				63-93	.785	.774	.764
31-61	8.147	7.601	7.116	64-94	.506	.500	.494
32-62	7.914	7.397	6.937	65-95	.230	.228	.226
33-63	7.673	7.186	6.750	66-96	.000	.000	.000

TO FIND THE PRESENT VALUE OF AN ANNUITY FOR TWO JOINT LIVES, WITH BENEFIT OF SURVIVORSHIP.

Directions.—From the sum of the values of the two single lives, subtract the value of the joint lives, and the remainder will be the rate of the value required.

Example.

To find the value of an Annuity of £ 100, to be received during the continuance of the longer of two lives of 30 and 35, reckoning the Interest of money to be 3 per Cent.

Value of a life of 30	16.922
35	15.938
	32.860
Value of two lives of 30 and 35 ..	12.131
	20.729

Amount required £ 20.729 × 100 = £ 2072 18s

It appears, that from the allowance of so low a rate of Interest, a greater sum would be required to secure an Annuity to continue until the end of the longer life, than would be generally wanted to purchase a Perpetual Funded Annuity. "See the Stocks."

Allowing 5 per Cent, the statement would be

for 30	13.072
35	12.502
	25.574
Joint lives of 30 and 35	9.954
	15.620

and the sum required would be £ 1562.

TO FIND THE VALUE OF A REVERSIONARY LIFE ANNUITY, TO BE RECEIVED AFTER THE TERMINATION OF EITHER OF TWO GIVEN LIVES.

Directions.—From the value of an Annuity to be received during the longer of the two given lives, as found by the directions in the preceding page, subtract the value for their joint lives, and the remainder will be the rate of the value required in a present payment; which divided by the rate of value for the joint lives with unity added, will give the rate of the equivalent annual payments.

Example.

To find the value of an Annuity of £100, to be received after the termination of either of two lives of 30 and 40; Interest being reckoned at 3 per cent.

Value of a life of 30.....	16.922		
40.....	14.848		or
	31.770		31.770
Value of the joint lives..	11.568	× 2 =	23.136
Rate of value for the longer life	20.202		8.634
Joint lives..	11.568		
Value of the survivorship	8.634		

Required value of the Annuity of £100.... £863 8s

£
12.568) 863.4

Yearly present payments £68.698 = £68 14 0

The directions are, to find the rate of the yearly payments, or the payments for an Annuity of £1 per Annum, upon the proposed conditions, but in this and the following Example, we find it, at once, for the given Annuity. It is to be remarked, that the difference of the values of this and the following Annuity, arises from the one being receivable, whichever of the two ages may first become extinct, and the other only being so in case the given life should be the survivor.

TO FIND THE VALUE OF A REVERSIONARY ANNUITY, TO BE RECEIVED AFTER THE TERMINATION OF A GIVEN LIFE.

Directions.—From the value of an Annuity of the life to receive the proposed Annuity, subtract the value of an Annuity upon the two joint lives, and the remainder will be the required rate of the present value in a single payment.—To find the rate of the value in present annual payments, divide the rate of the value in a single payment by the rate of the value of the two joint lives increased by unity, and the quotient will be the rate of the yearly payments required.

Example.

To find the present value of an Annuity of £100 per annum, to be received by a person aged 30, upon the extinction of a life aged 40, and the reverse; and also to find the present annual payments equivalent to the present value; Interest being reckoned at 3 per cent.

Value of a Life of 30.....16.922 (Tab. 7.)
Two joint Lives, 30 and 40 .....11.568 (Tab. 10.)

Rate of value..... £ 5.354

Value of the Annuity of £100..£ 535.4 = £535 8 *s.*

£
12.558) 535.4

Yearly present Payments £ 42.6 = £42 12 *s* for £100.

Value of a Life of 40.....14.848
Two joint Lives of 30 and 40..... 11.568

Rate of value 3.280

Value of the Annuity of £100..£ 328

£
12.568) 328

Yearly present payments .... £ 26.098 = £26 2 *s* for £100

TO FIND THE VALUE OF A GIVEN ANNUITY, TO BE RECEIVED DURING THE JOINT CONTINUANCE OF TWO LIVES, WITH AN ANNUITY OF A DIFFERENT AMOUNT TO BE AFTERWARDS RECEIVED BY THE LONGER OF THE TWO LIVES.

Directions.—Find the present value of the proposed Annuity in reversion, by the directions in page 40, and add it to the present value of the two lives during their joint continuance.

Example.

To find the value of an Annuity of £200, to be received during the continuance of two joint lives of 30 and 40, together with the value of an Annuity of £100, to be received during the continuance of the life of the survivor; Interest being reckoned at 3 per cent.

Rate of the value for the survivorship *..	8.634	
Value of the Annuity of £100.....	£863	8 *s.*
Do..... do. .. £200.....	2313	12
Whole value....	£3177	0

* This rate of the value is taken from the calculation made in page 40.

The £2313 12 is obtained from £2313 6, the product of 11.568 multiplied by 200.

TO FIND FROM THE PRECEDING TABLES, THE VALUE OF AN ANNUITY OF £1 PER ANNUM, UPON TWO JOINT LIVES WHOSE DIFFERENCE OF AGES IS NOT 5 YEARS.

Directions.—From the Table of the next higher difference of ages, find the value of an Annuity upon two lives, of which the older is the same as the one given; find the same value from the Table of the next lower difference, and subtract the second value from the first; this remainder gives the difference for 5 years, from which a proportionate part may be found, for the difference between the first assumed younger life and the one given; and this subtracted from the first value, will produce the value required to be determined.

Example.

To find the value of an Annuity of £1 per Annum, upon two joint lives of 31 and 45.

The differences of ages is here 14.

The value of two joint lives of

45 and 30..	difference 15 years..	is..	10.923 (Tab. 11.)
45 and 35.....	10 years		10.622 (Tab. 10.)
	Difference for 5 years		.301
(Subtract)	Difference for 1 year		.060 from 10.923
	Value required		£ 10.863 = £10 17 3

The above directions and Example, are taken from Doctor Price's work, with some trifling alterations in the formulæ.

TO FIND THE VALUE OF AN ANNUITY UPON TWO JOINT LIVES, DEFERRED FOR A GIVEN NUMBER OF YEARS.

Directions.—Find the value of two joint lives each older than the given lives by the given number of years; multiply this value by the probabilities of the given lives continuing the given period, and this product by the rate of the present value of £1 for the given time, and the last product will be the required value of an Annuity of £1.

Example.

To find the present value of an Annuity of £100, to be received during the joint continuance of two lives of 9 and 14, and to commence after a period of 7 years; Interest being reckoned at 3 per cent.

Value for 16 and 21 years 14.457
Probability for 9 and 16 years .. $\frac{5373}{5735}$
Probability for 14 and 21 years .. $\frac{5060}{5473}$
Rate of present value for 7 years ...813092

Log. of 14.457	1.160078
5373	3.730217
5060	3.704150
.81309	–1.910139
	8.504584

Log. of 5735 ..	3.758533
5473 ..	3.738225
	7.496758

Rate of the required value.... 1.007826 = 10.182

Required Value for £100 per Annum £1018 4s

TO FIND THE VALUE OF AN ANNUITY UPON THE LONGER OF TWO LIVES, DEFERRED FOR A GIVEN NUMBER OF YEARS.

Directions.—Find the values of deferred Annuities upon each single Life and upon the joint Lives. From the sum of the two former, subtract the value of the two latter, and the difference will be the rate of the value required.

Example.

To find the value of an Annuity of £100, upon the longer of two lives of 9 and 14, to commence after the expiration of seven years; Interest being reckoned at 3 per cent.

Value for 16 years....19.435. 21 years....18.470.

Present worth of £1 for 7 years .. .813092
Probability for 9 and 16....$\frac{5373}{5735}$ = .93688
Probability for 14 and 21...$\frac{5060}{5473}$ = .92454

19.435 × .813092 × .93688 = 14.810
18.470 × .813092 × .92454 = 13.885

Sum of the two rates..... 28.695
Deferred Rate for the joint lives (last Example) 10.182

Deferred Rate for the longer of the two lives .. 18.513

Required value of £100 per Annum..... £ 1851 6 *s.*

TO FIND THE VALUE OF THE CONTINGENCY OF A PERPETUAL ANNUITY, DEPENDENT UPON ONE PERSON SURVIVING ANOTHER.

CASE 1.—If the expectant be the older.

Directions.—From the value of the Perpetuity subtract the value of two joint lives, each of equal age with the older; then say, as the expectation of the younger life is to that of the older, so is half the above remainder to the number of years purchase.

Example.

To find the value of the contingent interest in freehold property worth £ 800 per Annum, to be inherited by a person aged 40, provided he should survive a person aged 30; the value of money being reckoned at 5 per Cent.

Value of the Perpetuity.....	20.	
Value of the two joint lives of 40..	9.016	(Tab. 8.)
	10.984	
Half the remainder....	5.492	

Expectation for 30 years 28.27 For 40 years..23.08 (Tab. 6.)

As 28.27 is to 5.492 so is 23.08
to 4.483 the number of years purchase.

£800 × 4.483 = £3586 8 *s.* Value of the older contingency.

If both of these ages were 40 years, the half remainder would be the value of either contingency; this value, with regard to the older of the two given ages, is inversely as their expectations.

CASE 2.—If the expectant be the younger.

Directions.—From the value of the Perpetuity, subtract the value of the joint lives added to the value found for the older contingency; the remainder will be the number of years purchase for the value of the younger contingency.

Example.

To find the value of the contingent survivorship for the younger of two lives of 30 and 40, in a Perpetuity of £ 800 per Annum, at 5 per Cent Interest.

Value of the Perpetuity.....	20.	
Older contingency	4.483	(last Example.)
Joint Lives—30 and 40....	9.576	(Tab. 10.)
	14.059	from 20
Rate of the younger contingent interest	5.941	

£ 800 × 5.941 = £ 4752 16 *s.* value required.

If the property were to be possessed upon the extinction of either of the lives, the value of the joint lives taken from the value of the Perpetuity, would be the value of the reversion; but as it is possible that the elder may survive, the value of that contingent survivorship, forms a further deduction.

TO FIND THE VALUE OF AN ANNUITY FOR THREE JOINT LIVES, FROM THE PRECEDING TABLES OF THE VALUE OF TWO JOINT LIVES.

Directions.—Find the value of an Annuity upon the joint lives of the two older of the given lives, and find, from Table 7, the age of a single life corresponding to it; then with this age and that of the youngest, find the value of a joint Annuity, which will be the value required.

Example.

To find the value of an Annuity of £1 per Annum, upon the joint continuance of 3 lives of 20, 25, and 30; the rate of Interest being 4 per cent.

The value of two lives of 25 and 30 is 11.618 (Tab. 9.)

This value being sought for in the 4 per cent column of Table 7, page 24, is found to correspond nearly with 11.685, answering to 48 years.

This age, 48, with 20, the youngest age, makes the difference to be 28 years.

The value of two joint lives of

48 and 18 .. difference 30 years is....		10.011	
48 and 23 ..... 25 years.....		9.833	
Difference for	5 years..	0.178	
	1 year ..	.0356	
20 — 18 =	2 years..	.071	from 10.011
Rate of Value for the 3 joint lives....		9.940	

Required Value of £1 per Annum £9 18 10.

The directions for the latter part of this calculation are contained in page 43.

This value of the Annuity during the joint continuance of the three lives, is not the exact value, but one which approximates very nearly to it.

REVERSIONARY PAYMENTS

OR

THE INSURANCE OF LIVES.

A life is said to be insured for the whole term of its duration, when it is agreed, that a specified sum shall be paid by the insurer, upon the extinction of the life insured.

If the insurance should be made for a limited period, the stipulated amount is to be paid, only in case the life should become extinct during the term of the insurance.

Reversionary Payments, similarly to Life Annuities, may be dependent upon a single life, or upon two or more lives, but with this general difference, viz; that the sum required for the compensation, may, in all usual cases, be either paid in a single amount as in Life Annuities, or by annual payments as is the more common practice.

The Data upon which Life Insurance calculations are founded, are, the probability of the duration of the Life, and the present value of the premium, dependent upon the rate of Interest to be allowed.—The sum to be received upon the termination of the life insured is considered as one year's produce of a deferred Perpetual Annuity, with the difference of the money being received at the beginning instead of the end of the year; and it is generally to be observed, of Annual Payments, that the longer the period is for which the engagement is made, the greater is the risk which takes place, and the greater should be the rate of the premium.

TO FIND THE PRESENT VALUE, OR THE ANNUAL PAYMENTS, WHICH MAY BE REQUIRED TO INSURE A CERTAIN SUM BEING RECEIVED ON THE EXTINCTION OF A GIVEN LIFE.

Directions—Subtract the value of the life from the value of the perpetuity; then say,—as £1 with its interest for 1 year is to that interest, so is the above remainder to the rate of the required present value, or the number of years purchase which it is worth.

To find the rate of the annual payments—Divide the value in one sum, by the rate of the value of the life, for the payments at the end of each year, or by the rate of the value increased by unity for the payments at the beginning.

N. B. By the same method, the value may be found for joint lives, when the money is to be received upon the death of either of the persons; or upon the termination of the longer life.

Example 1.

To find the present value in one sum, or the annual immediate payments, required to insure the receipt of £100 upon the death of a person aged 30; Interest being reckoned at 3 per cent.

Perpetuity at 3 per cent.....	33.333
Value of a life of 30; at 3 per cent	16.922
	16.411

If 1.03 produce .03 what will 16.411 produce?
Answer .47799 Rate of purchase.

$$\frac{.47799}{16.922 + 1} = \frac{47799}{17.922} = .02667 \text{ Rate per Annum.}$$

Present value of the Insurance on £100 £47.799 = £47 16 0
Equivalent Annual Payments ..... £ 2.667 = £ 2 13 4

In this manner the third column of Table 15 is constructed.

TO FIND THE PRESENT PAYMENT, TO INSURE A GIVEN SUM UPON A GIVEN LIFE, FOR THE TERM OF 1 YEAR.

Directions.—Multiply the present worth of £1, by the fraction expressing the probability of the person's dying within the year, and the product will be the present value of £1, from which the required present worth may be found.

Example 2.

To find the sum to be paid for insuring £100 for 1 year, upon a life of 30; Interest being reckoned at 3 per Cent.

Probability of dying, age 30, $\frac{75}{4385}$ (Table 6.)

	£	
Present worth of £1 ...	0.970874	(Table 2.)
	75	
	4854370	
	6796118	
4385)	72.815550	(.01660 Rate.
	28965	
	26555	
	24550	

Present value of an Insurance upon £100 . £1.660 = £1 13 3

Upon referring to the rates of the Insurance Offices, and to the following Table (15), we find this to be the required rate.

TO FIND THE PRESENT VALUE OF AN INSURANCE UPON A GIVEN LIFE, FOR A LIMITED PERIOD.

Directions.—Find the value of an Annuity upon the given life, for the given term, and also for one year less. Add £1 to the second value, and divide the amount by 1.03, for 3 per cent, 1.04 for 4 per cent, &c. From this quotient subtract the former value, and the remainder will be the present value, in one sum, of an insurance upon £1 for the given limited period. This value divided by the number expressing the second value increased by unity, will produce the annual rate of the payments to be made at the beginning of each year.

Example 3.

To find the present value of an insurance of £100, for 7 years, payable upon the termination of a life of 50, if it should become extinct within that period; and also to find the amount of the equivalent annual payment; Interest being reckoned at 3 per cent, and the probabilities of lives being taken from the Northampton Tables.

Value of a life of 57 ..10.611 ....of 56 .. 10.882 (Tab. 7.)
Present worth of £1 for 7 yrs .813092 for 6 .837484 (Tab. 2.)
Probability for 57 & 50 $\frac{2284}{2857}$ for 56 & 50 $\frac{2366}{2857}$ (Tab. 6.)
Value of a life of 50..... 12.436 ..... (Tab. 7.)

As the performance of this calculation can be much facilitated by the use of Logarithms, we shall here have recourse to them, referring to the Example in page 282, for the fractional form of the operation by ordinary numbers.

Log of 10.611	1.025756	
.81309	−1.910139	
2284	3.358696	
	4.294591	
2857	3.455910	
		12.436
	0.838681 =	6.897
	First value	5.539

Log of 10.882	1.036708	
.83748	−1.922974	
2366	3.374015	
	4.333697	
2857	3.455910	
		12.436
	0.877787 =	7.547
	Second value ..	4.889
		1.
	1.03)	5.889 *
		5.71748
	Deduct	5.539 First Value.
Rate of the required value		£0.17848
		100
Present payment for the Insurance		£17.848 or £17. 16. 11

£

*5.889) 17.848

Premium per cent £ 3.031 = £3. 0. 8 in annual payments.

For an explanation of this process we must refer to Mr. Morgan's Edition of Doctor Price's Annuities, from a Note in which by Mr. M. in page 53, Vol. I. Edit. 7. this form was taken.

In the above manner the second column of Table 15, is formed.

Example 4.

To find the present value of £800, to be received upon the death of either of two persons aged 30 and 40; — Interest being reckoned at 3 per Cent.

Perpetuity at 3 per Cent	33.333
Value of two joint lives of 30 and 40 ..	11.568
	21.765

If 103 produce 3 what will 21.765 produce?

Answer .63393 rate of the present value.

$$\frac{.63393}{12.568} = .05044 \quad \text{Rate per Annum.}$$

Present value of the Insurance on £100..£63.393=£63 7 10
Equivalent Annual Payments .....£ 5.044=£ 5 0 11

In this manner the rates in Table 17 are found.

These calculations may be thus performed by Logarithms.

Log. of 21.765	1.337759	
3	.477121	
	1.814880	
103	2.012837	
	−1.802043	= .63393
12.568	1.099266	
	−2.702777	= .05044

Example 5.

To find the present value of £100, to be received upon the death of the longer of two lives aged 30 and 40; Interest being reckoned at 3 per cent.

Value of a life of 30....	16.922
40....	14.848
	21.770
Value of the joint lives	11.568
Value of the longer ..	20.202
Perpetuity at 3 per cent	33.333
	13.131

Logarithm of 13.131..	1.118298	
3.	.477121	
	1.595419	
103	2.012837	
	−1.582582 =	.38245
21.202	1.326376	
	−2.256206 =	.01804

Present value of the Insurance on £100. £38.245 = £38 4 11

Equivalent Annual Payments.....£ 1.804 = £ 1 16 1

The latter part of the above, is calculated by the directions in page 302, using Logarithms in place of the ordinary numbers.

The value of the longer life is found by the directions in page 291.

TO FIND THE PRESENT VALUE, AND THE AMOUNT OF THE ANNUAL PAYMENTS, TO INSURE A JOINT SUM UPON A CONTINGENT SURVIVORSHIP.

CASE 1.—When the Life to receive the sum insured, is the older.

Directions.—From unity, subtract the product of the value of two joint lives, of the same age as the older, multiplied by the rate of the interest on £ 1.—Divide this product by double the amount of £ 1 at the end of 1 year, and multiply the quotient by a fraction whose numerator is the expectation of the older life, and whose denominator is the expectation of the younger life, and the result will be the present value of £ 1 for the older expectancy.

To find the annual payments, divide the present value by the rate of the value of the two joint lives added to unity, and the quotient will be the annual payment required to insure £ 1.

Example.

To find the present value and the amounts of the annual payments required to insure the receipt of £ 100 to a person aged 40, provided he should survive a person aged 30; Interest being reckoned at 3 per Cent.

Two joint lives of 40 .. 10.764
.03
.32292

$1 - .32292 = .67708$

$\frac{.67708}{2.06} \times \frac{23.08}{28.27} = .26834$ Rate of present payment.

$\frac{.26834}{11.568+1} = \frac{.26834}{12.568} = .02135$ Rate of Annual payment.

Present value of the insurance on £ 100.. £ 26.834 = £ 26 16 8
Equivalent Annual Payments ..... £ 2.135 = £ 2 2 9

CASE. 2.—When the Life to receive the Sum Insured, is the younger.

Directions.—Multiply the value of the two joint lives, by the rate of the Interest, and subtract the product from unity; divide the remainder by 1.03 for 3 per cent, 1.04 for 4 per cent, &c, and from the quotient subtract the rate of value of the insurance found by the directions to Case I.; the remainder will be the rate of the value for the present payment, which divided by the value of the two lives added to unity, will produce the rate of the equivalent annual payments.

Example.

To find the present value and the amounts of the annual payments, required to insure the receipt of £100 to a person aged 30, provided he should survive a person aged 40; Interest being reckoned at 3 per Cent.

Rate of the two joint lives.....11.568
.03

.34704 from 1 leaves

1.03) .65296

.63394
Rate found by the last Example .26834

Rate of present value..... .36560

$$\frac{.3656}{11.568+1} = \frac{.3656}{12.568} = .02909 \text{ Annual Rate.}$$

Present value of the Insurance upon £100..£36.560=£36 11 2

Equivalent Annual Payments .... £ 2.909=£ 2 18 2

See the following Table, 16, for the rates required by most of the Life Insurance Offices, which are calculated in the manner of the examples to these two cases.

TABLE XV.

INSURANCE ON SINGLE LIVES.

TO SECURE £100 PREMIUM PER ANNUM TO THE NOMINEES OR TO THE LAWFUL REPRESENTATIVES OF THE ASSURED.

Age.	1 Year.			7 Years.			Whole Life.		
8 to	£	s	d	£	s	d	£	s	d
14	0	17	9	1	1	5	1	17	7
15	0	17	11	1	2	11	1	18	7
16	0	19	2	1	4	7	1	19	8
17	1	1	2	1	6	1	2	0	8
18	1	3	3	1	7	5	2	1	8
19	1	5	0	1	8	6	2	2	8
20	1	7	3	1	9	5	2	3	7
21	1	8	10	1	10	1	2	4	6
22	1	9	3	1	10	6	2	5	4
23	1	9	8	1	11	0	2	6	3
24	1	10	2	1	11	6	2	7	1
25	1	10	7	1	12	1	2	8	1
26	1	11	1	1	12	7	2	9	1
27	1	11	7	1	13	2	2	10	1
28	1	12	1	1	13	9	2	11	1
29	1	12	8	1	14	4	2	12	3
30	1	13	3	1	14	11	2	13	4
31	1	13	9	1	15	7	2	14	7
32	1	14	4	1	16	3	2	15	9
33	1	15	0	1	16	10	2	17	1
34	1	15	8	1	17	8	2	18	5
35	1	16	4	1	18	10	2	19	10
36	1	17	0	1	19	7	3	1	4
37	1	17	9	2	0	8	3	2	10
38	1	18	6	2	1	9	3	4	6
39	1	19	3	2	2	11	3	6	2
40	2	0	8	2	4	1	3	7	11

TABLE XV. Continued.

Age.	1 Year.			7 Years.			Whole Life.		
	£	s	d	£	s	d	£	s	d
41	2	2	0	2	5	4	3	9	9
42	2	3	6	2	6	6	3	11	8
43	2	4	6	2	7	9	3	13	8
44	2	5	6	2	9	2	3	15	9
45	2	6	8	2	10	10	3	17	11
46	2	7	10	2	12	6	4	0	2
47	2	9	0	2	14	4	4	2	7
48	2	10	3	2	16	4	4	5	1
49	2	12	3	2	18	6	4	7	10
50	2	15	1	3	0	8	4	10	8
51	2	17	4	3	2	8	4	13	6
52	2	19	1	3	4	9	4	16	5
53	3	1	0	3	7	0	4	19	7
54	3	3	0	3	9	5	5	2	10
55	3	5	0	3	12	0	5	6	4
56	3	7	3	3	14	8	5	10	1
57	3	9	8	3	17	6	5	14	0
58	3	12	3	4	0	6	5	18	2
59	3	15	1	4	3	8	6	2	8
60	3	18	1	4	7	1	6	7	4
61	4	1	5	4	10	11	6	12	4
62	4	3	11	4	15	0	6	17	9
63	4	7	8	4	19	8	7	3	7
64	4	10	9	5	4	10	7	9	10
65	4	15	2	5	10	10	7	16	9
66	5	0	1	5	17	7	8	4	1
67	5	5	6	6	5	2	8	12	1

TABLE XVI.

OF THE SURVIVORSHIP OF A LIFE INSURED.

TO SECURE A SUM TO THE NOMINEE OR LAWFUL REPRESENTATIVES OF THE INSURED, IN CASE A PERSON NAMED SHALL SURVIVE ANOTHER.

AGE.		PREMIUM per Cent, per Annum.		
Life to be Insured.	Life to receive the Insurance.	£	s.	d.
10	10	1	8	6
	20	1	9	1
	30	1	8	3
	40	1	7	8
	50	1	6	11
	60	1	6	0
	70	1	4	11
	80	1	3	4
20	10	1	16	6
	20	1	17	0
	30	1	15	9
	40	1	14	8
	50	1	13	6
	60	1	12	1
	70	1	10	6
	80	1	8	3
30	10	2	5	5
	20	2	6	0
	30	2	4	6
	40	2	2	9
	50	2	0	11
	60	1	18	10
	70	1	16	7
	80	1	13	9
40	10	2	19	2
	20	2	19	10
	30	2	18	2
	40	2	15	11
	50	2	12	10
	60	2	9	4
	70	2	5	11
	80	2	1	10

TABLE XVI. Continued.

AGE.		PREMIUM per Cent, per Annum,		
Life to be Insured.	Life to receive the Insurance.	£	s.	d.
50	10	4	0	11
	20	4	1	10
	30	4	0	1
	40	3	17	10
	50	3	13	10
	60	3	7	7
	70	3	1	6
	80	2	15	0
60	10	5	16	9
	20	5	18	1
	30	5	16	3
	40	5	14	0
	50	5	10	7
	60	5	2	4
	70	4	9	10
	80	3	17	11
67	10	8	1	0
	20	8	2	9
	30	8	0	10
	40	7	18	7
	50	7	15	6
	60	7	8	8
	70	6	10	8
	80	5	8	9

N. B. The value of an Insurance of a sum of money, to be received by a given person at the end of a given time, provided he is then alive, is found by multiplying the present worth of the given sum for the number of years, from Table 2, by the probability of the person living to the given age, from Table 6. Thus for £100, at 3 per cent, on a life of 14, to be received at 21 years of age.

$$£81.309 \times \frac{5060}{5473} = £75.173 = £75.\ 3.\ 6$$

TABLE XVII.

INSURANCE ON TWO JOINT LIVES, TO SECURE A SUM WHEN EITHER OF THE TWO PERSONS NAMED SHALL HAPPEN TO DIE.

Age.	Age.	PREMIUM per Cent, per Annum. £	s.	d.
10	10	2	17	1
	15	3	1	1
	20	3	5	7
	25	3	9	3
	30	3	13	9
	35	3	19	6
	40	4	6	10
	45	4	15	11
	50	5	7	10
	55	6	2	8
	60	7	2	9
	67	9	6	3
15	15	3	5	0
	20	3	9	6
	25	3	13	1
	30	3	17	6
	35	4	3	1
	40	4	10	4
	45	4	19	5
	50	5	11	3
	55	6	6	1
	60	7	6	0
	67	9	9	5
20	20	3	13	11
	25	3	17	5
	30	4	1	9
	35	4	7	3
	40	4	14	6
	45	5	3	6
	50	5	15	4
	55	6	10	2
	60	7	10	2
	67	9	13	9
25	25	4	0	10
	30	4	5	0
	35	4	10	3
	40	4	17	4
	45	5	6	2
	50	5	17	10
	55	6	12	6
	60	7	12	5
	67	9	15	9

Age.	Age.	PREMIUM per Cent, per Annum. £	s.	d.
30	30	4	8	11
	35	4	14	1
	40	5	0	11
	45	5	9	6
	50	6	1	0
	55	6	15	5
	60	7	15	0
	67	9	18	1
35	35	4	19	0
	40	5	5	6
	45	5	13	10
	50	6	5	0
	55	6	19	2
	60	7	18	6
	67	10	1	2
40	40	5	11	9
	45	5	19	9
	50	6	10	8
	55	7	4	5
	60	8	3	4
	67	10	5	6
45	45	6	7	4
	50	6	17	9
	55	7	11	0
	60	8	9	6
	67	10	11	1
50	50	7	7	8
	55	8	0	3
	60	8	18	2
	67	10	18	10
55	55	8	12	2
	60	9	9	0
	67	11	8	5
60	60	10	4	9
	67	12	2	1
67	67	13	15	8

TO FIND THE VALUE OF AN INSURANCE UPON A SINGLE LIFE, DEFERRED FOR A GIVEN NUMBER OF YEARS.

Directions.—Find the value of an Insurance of £ 1, upon a life older than the one to be insured, by the given number of years; multiply this by the rate of the present value of £ 1 for the given time (from Tab. 2), and also by the probability of the continuance of the life for the given period (from Tab. 6); and this product will be the present value of the deferred Insurance of £ 1, from which the present value for the required sum may be obtained.

Example.

To find the present value of an Insurance of £ 100, to be received after the death of a person aged 14; provided that should happen after the period of 7 years; Interest being reckoned at 3 per cent.

Perpetuity at 3 per cent...	33.333	
Value of a life of 21	18.470	(Tab. 7).
	14.863	

$$\frac{14.863 \times .03}{1.03} = £\ .4329 \quad \text{Insurance of £ 1.}$$

$$£\ .4329 \times \frac{5060^*}{5473} \times .813092 = £\ .32543 \quad \text{rate required.}$$

Value of the Insurance on £ 100....£ 32 10 10.

Calculation by Logarithms.

Log. of	14.863..	1.172106
	.03..	—2 477121
	.92454.	—1 965926
	.81309..	—1.910139
		—1.525292
Log. of	1.03..	0.012837
		—1.512455 = .32543 rate required.

* Instead of this, the decimal value .92454 may be used. See page 297.

TO FIND THE VALUE OF AN INSURANCE UPON TWO JOINT LIVES, DEFERRED FOR A GIVEN NUMBER OF YEARS.

Directions.—Find the value of an Insurance of £ 1 upon two joint lives, each older than the given lives, by the given number of years.—Multiply this by the joint probabilities of continuance, and by the rate of the present worth of £ 1 for the given time, and the product will be the rate of the present value of the deferred Insurance.

Example.

To find the value of an Insurance upon £ 100, to be received after the death of either of two lives aged 9 and 14, provided that should happen after the period of 7 years; Interest being reckoned at 3 per cent.

Perpetuity at 3 per cent.....	33.333
Value of two Lives of 16 and 21..	14.457
	18.876

Rate of the present value of £ 1 for 7 yrs..	.81309	(Tab. 2.)
Probability for 9 years and 16 years.....	.93688	(see p. 297.)
Probability for 14 years and 21 years	.92454	(see p. 297.)

Logarithm of....	18.876....	1.275910
	3.....	0.477121
	.93688....	—1.971684
	.92454....	—1.965926
	.81309....	—1.910139
		1.600780
Log. of	103	2.012837
Rate of value		—1.587943 = .38721

Value of the Insurance upon £ 100 .... £ 38 14 5.

TO FIND THE VALUE OF AN INSURANCE UPON A SINGLE LIFE, DEFERRED FOR A GIVEN NUMBER OF YEARS.

Directions.—Find the value of an Annuity on the longer of the two lives deferred for the given period, multiply it by the rate of Interest, and reserve the product.

Find the sum and also the product of the probabilities of the two lives continuing for the given period; from the amount subtract the product, and multiply the remainder by the rate of the present value of £ 1, for the given time.

From the last product subtract the reserved product, divide the difference by the rate of the amount of £ 1 for one year, and the quotient will be the rate of the value required.

Example.

To find the value of an Insurance upon £ 100, to be received after the death of the longer of two lives aged 9 and 14, provided that should happen after the period of 7 years; Interest being reckoned at 3 per cent.

Rate of the value of the deferred Annuity	10.182	(Ex. p. 296.)
	.03	
Reserved Product.....	.30546	
Probability for 9 and 16.....	.93688	Ex. p. 297.
14 and 21.....	.92454	
	1.86142	
.93688 × .92454 =	.86618	
	.99524	
.99524 × .813092 =	.80922	
Reserved Product.....	.30546	
1.03)	.50376	
Rate of required Value.....	.48908	

Value of the Insurance on £ 100.... £ 48 18 2

TO FIND THE PRESENT VALUE OF THE REMAINDER OF AN INSURANCE, OR THE SUM TO BE GIVEN AS AN EQUIVALENT FOR THE CANCELMENT OF A LIFE INSURANCE POLICY.

Directions.—Find the difference between the rate of the Policy, and the rate of an Insurance for the present age of the party.—Find also the rate of an Annuity at 3 per Cent, on the given life at its present age; add 1 to it, and multiply the amount by the above difference; the product will be the equivalent required for £ 100.

Example.

To find the compensation to be given to a person aged 40, for relinquishing an Insurance upon his life for £ 500, the rate of his Policy, or the sum annually paid by him, being £ 2 10.

Rate of Premium for a life of 40	3.396	(Tab. 15.)
paid	2.5	
Difference	0.896	
Rate of an Annuity for age 40	£ 14.848	(Tab. 7.)
	1.	
	15.848	
above difference	.896	
Required value for £ 100	£ 14.200	
Do. £ 500	£ 71.—	

The principle of this calculation is, that as the insurer, by beginning at an earlier period of his life, is entitled to a continuance of the insurance at a lower rate than what he would now have to give, by relinquishing his claim, he has a right to the value of an annuity for the difference of the rates, with one year's extra purchase, for the difference between the periods of the claims for an insurance and an annuity; one being due immediately, and the other not being calculated as due before the end of the year.

LIFE INSURANCE OFFICES.

Amongst the principal offices in London for the granting of Annuities and for the insurance of Lives, are the Equitable, Pelican, Royal Exchange, Sun, Eagle, Union, &c. for a particular account of which we must necessarily refer, to the Prospectuses issued by all these Establishments. To these is to be added the office of the Commissioners for the reduction of the National Debt, who are empowered to grant Life Annuities in exchange, either for stock possessed by the Annuitants, or for money to be laid out in stock, for which see a further account in the following department.

As before stated, these offices profess to be guided by the Northampton Tables, and, with one or two exceptions in which more favorable terms are offered, they all appear to coincide in their general principles, but upon a more minute investigation considerable differences are found to exist.

In the Equitable, and a few other offices, a large portion of the profits, is at certain periods distributed amongst the insurers, either as increasing the money to be received after the death of the parties, or decreasing the rates of the premium to be paid.

With some offices, this profit is shared between the insurers, and the proprietors of the Guarantee Funds, and with one or two other offices, the former are wholly excluded from any participation.

Many minor points of difference exist in the modes of transacting the business, but from the great prosperity and consequent celebrity, which the Equitable has obtained from the skilful management of Doctor Price and Mr. Morgan, its regulations are followed in all essential particulars without scarcely any investigation.

As the last thing here to be noticed, we have to remark, that no person can legally establish a claim to the amount for which he has insured the life of another person, without having at his death an interest to that amount; and that with some offices it is a practice to make the parties prove their interest, which right, by others, is altogether relinquished.

GOVERNMENT ANNUITIES.

The Annuities granted by the Government of this country, to be paid from its Revenue, or the produce of the Taxes, are of three kinds, viz.

First—Perpetual Annuities, or those existing for an indefinite period, but which may be terminated by the payment of the capital upon which they are calculated.

Second—Limited Annuities, which terminate in the year 1860, and which government cannot redeem.

Third—Life Annuities, for the duration of one or more lives, with or without the benefit of survivorship.

THE PERPETUAL ANNUITIES.

The capitals upon which the Perpetual Annuities are calculated, are called the Stocks, probably from some similarity in the mode of disposal, &c, to the trading capitals of public companies; in conformity with which the half yearly Annuities, are styled dividends, as if proceeding from the division of profits; it is sometimes, but incorrectly, stated that the stocks are the amount of the money advanced or lent to government by private individuals, towards providing for the public expenditure, coinciding with which opinion, the dividends or annuities are termed the interest upon the debt; but, as above, the stocks are only to be considered as the capitals upon which the annuities are calculated, or as the sums of money which the proprietors would have a right to demand as a compensation, if Government possessed the means, and were determined to cancel them.

In speaking of the Perpetual Annuities and their Stocks, they are commonly termed the National Debt; but what appears more properly entitled to this appellation, are those claims upon government for which no compensation has been granted in the manner of Annuities. Of this sort are the arrears of pay, and debts for supplies, &c, in different departments of the State; the advances at various times made by the Bank of England; and the amount of the promissory notes of government or Exchequer Bills; though a large portion of the latter is formed by issues of bills in anticipation of the Revenue. The whole of these, independent of the permanent Debt due to the Bank, amounted, at the beginning of the present year, to upwards of fifty-three millions of money; but as some deduction from this large sum, the arrears of the uncollected taxes, and the duties unpaid upon goods which have been bonded, are to be taken into consideration, though they are brought into account only when they are paid.

The Stocks or Annuities are sometimes called the Funded Debt, as the supposed interest is paid from the funds or resources of the country; and the purchase of a portion of these Annuities is frequently said to be, placing in the Bank or in the Funds, the money which they cost.

The Stocks of the Perpetual Annuities have received different appellations, according to the rate of the Annuities, and the times and circumstances of their formation; as the 5, 4, $3\frac{1}{2}$, and 3 per Cent Stocks, producing the Consolidated, Reduced, and Navy Annuities, &c.

In general, the Annuities are created from their direct sale by government; which is commonly termed raising a supply by way of a loan. Otherwise, they are given as considerations or in exchange for debts, or various claims upon the Treasury, and for Exchequer Bills, &c, which are then said to be funded.

The Perpetual Annuities now payable from the Revenues of Great Britain, are the following :

NAVY FIVE PER CENT ANNUITIES; commenced in the year 1784, as considerations for the principal and interest of many outstanding Bills due by the Navy, Victualling, Ordnance, and Transport Boards, and a small amount of Exchequer Bills; they have since been increased by various subscriptions from other Annuities, as well as by a few of the loans.

FIVE PER CENT ANNUITIES of 1797 and 1802. The original capital of these Annuities was formed by the advances made to Government in 1797, in what was called the Loyalty loan; and by the funding of Exchequer Bills in 1801 and 1802. Nearly the whole was afterwards subscribed into the Navy Five per Cent Annuities, and rather less than 1 million was paid off in 1806.

CONSOLIDATED FOUR PER CENT ANNUITIES. These Annuities commenced in 1777, with a capital of five millions, which was given in consideration of a loan, for the same amount; the additional remuneration being an annuity of 10s, and a Lottery Ticket at a low price for every £100 advanced. Loans and the funding of Exchequer and Navy Bills, &c, have since repeatedly increased the amount.

THREE AND A HALF PER CENT ANNUITIES, were created in the last year (1818) in exchange for 3 per Cent Annuities, there being given besides, £11 in money for every £100 of this stock.

CONSOLIDATED THREE PER CENT ANNUITIES, usually called Consols, commenced in 1731, and were so denominated in 1751, in consequence of various other Annuities being consolidated with them. As a large portion of the considerations given for the loans is usually in these Annuities, their amount is now nearly 2-5ths of the whole of the government Annuities of this country, and in consequence of this magnitude, they are the subjects of most of the speculations in the funds.

REDUCED THREE PER CENT ANNUITIES. The original capital of these Annuities, which were formed in 1746, bore an interest of 4 per cent; this was reduced in 1750 to $3\frac{1}{2}$ per cent, and in 1757 to 3 per cent; whence the name. The capital of these Annuities is about one-third of that of the consols; and the usual difference in the per centage value of these two stocks, is but little more than what arises from the growing interest upon each; what difference there may be, is generally in favor of the Consols. A part of these Reduced Annuities was created by a loan to the Prince Regent of Portugal, and a part of the present stock of both the Reduced and Consols, was formed by a loan to the East India Company.

THREE PER CENT ANNUITIES of 1726. The capital of these Annuities was created in that year, by a loan for the purpose of discharging some Exchequer Bills, which had been issued to pay the arrears of the Civil List. It is a stock that very rarely comes into the market.

IMPERIAL THREE PER CENT ANNUITIES. In the years 1795, and 1797, two loans of £4.600.000 and £1.620.000 were raised in this country for the use of the Emperor of Germany, in consideration of which, these Annuities were granted to be paid from the produce of his hereditary dominions, but with the collateral security that they should be paid from the resources of this country, whenever the Emperor might fail in his engagement. This failure of the stipulated remittance took place very soon after the second loan, since which the dividends have been paid by our government. These Annuities are due on the 1st of May and November, but are not paid until the ensuing 5th of July and January.

For an explanation of the South Sea Stock and Annuities, see a following account of that company.

The amounts of these Stocks including the transfers made from the English to the Irish funds, and the amounts of the Stock redeemed by the operation of the Sinking Fund and cancelled by the redemption of the Land Tax, were, at the beginning of this year, nearly as follows.

	Stocks.		Redeemed, &c.
Navy 5 per Cent.....	£ 136.818.957	....	£ 340.745
Five per Cent, 1797 & 1802	1.021.969	....	6.629
Four per Cent	82.732.119	....	7.820.569
Three and a half per Cent	25.356.574	....	1.908.400
Consolidated Three per Cent	490.008.119	....	123.314.482
Reduced Three per Cent..	363.922.975	....	227.257.626
Three per Cent, 1726	1.000.000	....	.299
Imperial Three per Cent..	7.502.633	....	2.176.565
South Sea Stock.....	3.662.784		
Old South Sea Annuities..	11.907.470	....	6.498.300
New South Sea Annuities..	8.494.830	....	4.910.500
Three per Cent, 1751	1.919.600	....	1.103.000
	1134.348.030		375.337.115
Redeemed and cancelled	375.337.115		
	759.010.915		
Exchanged for Life Annuities	4.895.146		
Net Amount Jan. 5, 1819	£ 754.115.769	for Great Britain.	
	23.064.745	for Ireland.	
Total	£ 777.180.514		

To this total amount of the Stocks of the United Kingdom, may be added, the sum of £ 17.152.000 Stock in Consols and Reduced, created by the loan of twelve millions of money for the service of the present year; and also the same amount of additional Stock, placed to the account of the Commissioners for the reduction of the National Debt, in exchange for the same sum of money, which has been taken from the produce of the Sinking Fund.

LIMITED ANNUITIES.

At present, the only Annuities of this class, are the BANK LONG ANNUITIES, which were created in 1761, for 99 years, or for the estimated average period of the duration of three lives, and which terminate on the 5th of January 1860. Their amount, at the commencement, was a little more than one hundred and twenty-eight thousand pounds per Annum; but they have increased from various sales or loans, from the funding of Exchequer Bills, and from the exchange of Tontine Life Annuities, to the amount of more than one million, three hundred and fifty thousand pounds.

There lately existed other Annuities, under the title of Imperial or Short Annuities, being part of the consideration given for the Imperial Loan; but these expired on the 1st of May of the present year, 1819.

In forming these Limited Annuities, they seem to have been given as an inducement for the advance of money at a low rate of Unlimited Annuities, or for preventing a greater quantity of stock being formed, than the amount of the money advanced, for the purpose of better facilitating its redemption. A necessary consequence of this method is, that the present payment of Annuities is made greater than what it would otherwise be, and therefore since the diminution of the immediate expenditure, has become a serious object of the legislature, this expedient has been relinquished.

Lottery Tickets without any charge, or at a low rate, Life Annuities, and Annuities for a short period, used formerly to be the equivalents thus given.

EXCHEQUER LIFE ANNUITIES.

The first attempts to raise money in this country, without imposing upon the government any obligation for its repayment, were in the reign of William the Third, when Annuities for lives were sold for this purpose. This method continued to be the practice during part of the reign of Queen Anne, since which time it has been but very sparingly resorted to; Annuities for limited periods, and perpetual Annuities, having entirely superseded Life Annuities.

The advantage to government which is attendant upon this method, is, the probability of the termination of the Life Annuities, within no very distant period; but the great rate of interest, according to that probability, which the purchaser receives, forms a disadvantage that is heavily felt, by its diminution of the present resources; hence, although from the latter cause this method has been abandoned in the original raising of money, yet out of the funds which have been set apart for its repayment, or redemption, it has been considered that it would ultimately prove beneficial to this object, to induce the holders of the Perpetual Annuities, to consent to exchange them for Annuities for either their lives, or for those of their nominees, and a fresh creation of Life Annuities has in consequence taken place.

The remainder of the Annuities originally granted for the foregoing purposes, are payable half yearly at the Exchequer, on the 5th of January and the 5th of July, whence they are called Exchequer Annuities. They are transferrable by assignment endorsed on the order, which must be registered at the Exchequer, but it very rarely occurs, that they are brought for sale to the Stock Exchange.

The amount of these Annuities, including the Tontine Annuities, or those with a limited benefit of survivorship, was, at the beginning of this year, about £42,392; but in this is included a sum £8,195 calculated upon lives which it is supposed have long since terminated, and the same is, perhaps, the case with several others of these Life Annuities.

BANK LIFE ANNUITIES.

The exchange of the Perpetual or the Limited Annuities for these Annuities, is under the direction of the Commissioners for the reduction of the National Debt, to whose account the Stock is transferred, and from whose dividends the Annuities are paid, at the Bank-Stock-Office in the Bank.

The commencement of this plan for the redemption of the former Annuities was in 1808, since which time various acts have passed for its enlargement and better regulation, of which the following are general outlines.

The Life Annuities may be granted in exchange, for either

3 per Cent, Consolidated Bank Annuities.
3 per Cent, Reduced Bank Annuities.
4 per Cent, Bank Annuities.
5 per Cent, Bank Annuities.
Or Long Annuities.

Payments may also be made in money, which the Commissioners are to invest in the purchase of Stock, for which they charge the regular Brokerage of 2 *s* 6 *d* per cent.

When the exchange is made for any other than 3 per Cent Annuities, the value of the money or of the Stock transferred, is computed in either the Consols or Reduced, at the option of the purchaser, at the average of the prices of the Commissioners purchases, on the day preceding the day of contract.

The party nominated to receive the Annuity must be 21 years of age, and must be a native of, and resident in, Great Britain or Ireland. These Annuities being payable out of the dividends of the Stock redeemed by the Commissioners, may be received half yearly either by the Principals, or by their agents acting under a power of Attorney. They may also be transferred, but not in parts or shares, nor can the original nominee ever be changed.

No transfer or exchange can be made when the Books are shut. When the transfer is made before the commencement of one government quarter, the Annuity is reckoned due at the commencement of the followiug quarter.

If purchased between.	The Annuity is due.
Jan. 5 and April 4	On July 5 and Jan. 5
July 5 and Oct. 9	On Jan. 5 and July 5
April 5 and July 4	On Oct. 10 and April 5
Oct. 10 and Jan. 4	On April 5 and Oct. 10

Therefore, the purchases may be so regulated, as to have the Annuity due in each quarter of the year.

The least amount of stock, at first invested in the purchase of a Life Annuity, must be £100—3 per Cent, or £4 Long Annuity; but after an account has been opened, the Annuity may be increased by the transfer of, at least, £20 Stock, or by paying its equivalent value.

The Commissioners are also empowered to receive transfers of not less than £10 Stock, or money to that amount to be laid out in Stock, and to invest the Interest as it becomes due; provided it is agreed, that, after a certain number of years fixed by the purchaser, the accumulated amount shall be invested in the purchase of a Life Annuity; but if the decease of the Nominee should take place before the expiration of the appointed time, the amount of the accumulated Stock, is to be transferred to the person, who is then entitled to it.

Upon the death of a single Nominee, or of the survivor of two joint Nominees, one fourth of the amount of the Annuity over and above any arrears, may be received by his Executors, &c, provided it is claimed within two years.

When a Life Annuity of £5 or upwards, has been purchased of the Commissioners, they may agree to grant an Annuity to be deferred for a certain number of years, for which they may receive the value in money to be invested in Stock.

The rates of these Annuities for single lives are published, and may be obtained, gratis, at the office of the Commissioners in Bank Street, Cornhill. They are calculated for the different prices of 3 per cent stock, from 50 to 80 per cent, and they are considerably more in favor of the purchaser of the Annuity, than the tables which are acted upon by any of the Insurance and Annuity Offices.

When the 3 per cents are at 60 the rate allowed for the interest of the money invested, or the stock transferred, is nearly 5 per cent; while the tables used by the other offices, are calculated at only 3 per cent, a rate that would be taken for the government Annuities, only if the 3 per cents should be nearly 100 per cent.

The amounts of the different Stocks and of the Perpetual Annuities, obtained by the Commissioners in exchange for these annuities, according to the accounts made up to the commencement of this year, were,

	Stock.	P. Annuities.
3 per Cent, Consols	3.172.734	95.182
3 per Cent, Reduced	1.653.860	49.616
4 per Cent,	13.480	.539
5 per Cent, Navy	55.072	2.754
	£4.895.146	£148.091

The amount of the Life Annuities then payable for these Stocks was £329.437, from which it appears, that the Life Annuities still amount to more than double the sum of the Annuities produced from the Stocks, as the plan has been too recently established, to admit of much counterbalancing advantage, by the failure of the lives of the Nominees.

IRISH

STOCKS AND ANNUITIES.

The Public Debts of Ireland, as separate from those of this country, commenced in the year 1773, when the first money that was raised, was in exchange for Tontine Life Annuities.

The process of forming the loans, and funding Treasury Bills, &c, with the establishment of a fund for their reduction, was conducted so entirely similar to the same transactions in this country, that any particular explanation seems quite unnecessary.

At the period of the Union of the two countries, which took place on the 1st of January 1801, the debts of each were to continue as separate charges on the separate Revenues, which were to be also charged with the future separate expenses for the particular service of each country; but the general charges as those for the Navy, Army, &c, were to be defrayed in the proportion of 15-17 ths for Great Britain, and 2-17 ths for Ireland.

These regulations are, however, now abolished, as an Act which passed in the year 1816, directed the Revenues, Annuities, Sinking Funds, &c, of the two kingdoms, to be united into one general account, from the 5th January 1817. The Dividends and Life Annuities still remain payable in Dublin, with the exception of those upon a portion of the Irish 5 per cent stock, amounting to £ 1.900.000, which are made payable and transferrable at the Bank of England.

The amounts of the Irish Stocks and Annuities are as follow.

3½ per Cent.....	£18.713.503
4 per Cent.....	1.061.631
5 per Cent.....	12.694.400
	32.469.534
Cancelled by Mr. Vansittart's Act.....	3.870.984
	28.598.550
Commissioners of Sinking Fund	5.533.805
Net Amount.....£	23.064.745

The Annuities payable upon this net amount of the Stocks are.....	£ 977.731
The Annuities received by the Commissioners for the reduction of the National Debt....	628.042
The estimated amount of Life Annuities....	43.909
Charges of management.....	2.228
Whole Charge of the Irish Debt.....	£ 1,651,910

To facilitate the Transfer of Stock from the English to the Irish Funds, an Act of Parliament was passed on the 7th July 1817, of which the following are the principal regulations.

The Dividends on the 5 per cent Stock, which before were payable at the Bank of England, on March 25, and Sept. 25, and at the Bank of Ireland, on March 25, and Sept. 29, were made payable on the 5 th April, and 10 th October, and similar changes were made in the dividends on $3\frac{1}{2}$ per cent, and 4 per cent stocks, which were made payable on January 5, and July 5, the difference for the time, being paid up to those dates.

Persons holding the undermentioned Stocks transferrable at the Bank of England, may exchange the same for corresponding stock transferrable at the Bank of Ireland, upon the following scale, calculated from the established par of the Irish Exchanges, which is $8\frac{2}{3}$ per cent.

For £100 English Stock.	May be received in Irish Stock.	
3 per Cent, Consols	£ 92 17 2	at $3\frac{1}{2}$ per cent.
$3\frac{1}{2}$ per Cent Annuities.....	108 6 8	
4 per Cent, Consols	86 13 4	... 5 per cent.
5 per Cent—1797, or Irish 5 per Cent, payable in London, ..	108 6 8	... 5 per cent.

and so in proportion for any greater or less sums.

When a person, possessing the above Stock in the English Funds, is desirous of transferring it to those of Ireland, application for permission must be made at the Bank of England; this being granted as a matter of course, and the party being found to possess a sufficient quantity of Stock, he executes a regular transfer of it to

the Commissioners for the Reduction of the National Debt, and receives a certificate from the Governor, or Deputy Governor of the Bank, describing the quantity of the Stock transferred; the corresponding amount, regulated by the preceding scale, of the Irish Stock, to which he is entitled; with other necessary particulars, according to a form established by the Bank.—Upon the production of this certificate, the Governor and Company of the Bank of Ireland, are required to open an Account for the person described, in the Books of the proper Stock, or to add it to his Account if before opened, and then the dividends when due, are to be calculated from the last dividend-day previous to the transfer.

No transfer is to be made in England within one month before the dividends become due, or to be registered in Ireland within three weeks of the same time.

If a certificate be lost or destroyed, a duplicate may be granted by the Bank of England; but before any account can be opened for it in Ireland, security must be given against the production of the original.

Previous to the passing of this Act, in order to enable any person in this country to invest his money in the Funds of Ireland, it was necessary to transmit it, and make the purchase there; this is no longer required; the money may be invested in the purchase of English Stocks, which being transferred, the dividends may be received, or the Stock be sold in Dublin.

For the latter of these purposes very large speculations have lately been made; the produce of the Irish Stock has either been laid out in the purchase of Bills of Exchange, which have been remitted to this country, or the amount has been retained, for the payment of Bills drawn from London.

The quantities of Stock which have been transferred, taking the Irish Stock at its sterling value, are,

English.			Irish.
3 per Cent,	£ 879.774	making	£ 2.669.518—3½ per Ct.
3½ ... " ...	1.915.426		
5 ... " ...	71.100	.....	71.000—5 per Ct.

THE LOANS

OR

PURCHASES OF ANNUITIES.

The general mode in which these negociations are conducted, may be thus explained.

When the produce of the taxes is insufficient for defraying the national expenditure, and the Minister finds it necessary to make up the deficiency by the sale of Annuities, or, as it is called, obtaining a loan, he makes a communication to the Gentlemen of the Stock Exchange, through the medium of the Governor of the Bank, in which he informs them of its being his intention to propose this measure to the consideration of Parliament, and states the amount of the money to be raised, with a part of what consideration is to be given in return, and what sort of Stock, or Annuity, is to create the rest of the remuneration.

Upon the day appointed for an interview, the different parties offering to advance the money, wait upon the Chancellor of the Exchequer, when the person making the lowest offer obtains the preference. An account of these terms is immediately laid before the House of Commons, and upon their being agreed to in a Committee of Ways and Means, the faith of Parliament is considered to be pledged, for their fulfilment of the engagement.

In the recent bidding for the Loan, for every £100 to be advanced, it was proposed by Mr. Vansittart, that there should be £80, Consolidated 3 per cent Stock given in Exchange, and the lowest other demand on the part of the Contractors, was made by Mr. Rothschild, who offered to take £62 18 8 of Three per Cent Reduced Stock in addition.

This negociation took place on the 9th of last June, and the remaining stipulations were the following.

The sum of twelve millions of money was to be advanced in ten instalments of ten per cent each, on the following days,

1st – June 12	4th – Sept. 17	7th – Dec. 17
2nd – July 23	5th – Oct. 15	8th – Jan. 21
3rd – Aug. 20	6th – Nov. 19	9th – Feb. 18

and the last on the 17th of March, 1820.

Upon the remaining instalments being paid up in full, at any period before the last would become due, a discount of 3 per cent per Annum was agreed to be allowed; the Reduced Annuities were to commence from the 5th of April, and the Consolidated Annuities, from the 5th of July, 1819.

The additional capitals created by this Loan, are

£9.600.000 Stock of Consolidated Annuities, and
£7.552.000 Stock of Reduced Annuities;

Increasing the Annuities by £514.560 per Annum, and yielding an Interest of very nearly £4 5 9 per cent, upon the money advanced.

Taking the value of the Stocks as they were at the close of the preceding day, and deducting the dividend due upon the Consols, it was calculated that the remuneration received by the Contractor would be,

For £80, – – Consols at	69	per cent.	£55	4 0
£62, 18, 8 Reduced at	69¾	per cent.	43	18 0
Discount on £90 for 279 days.....			2	1 3
			£101	3 3

Making a surplus, called a BONUS, of nearly 1¼ per cent. To avoid any fractional calculation in the receipts given for the instalments, the £80 Consols are valued at £56, and the £62 18 8 Reduced at £44, making together the exact £100.

The custom in these transactions is, for those persons who wish to participate in the Loan, previously to address a letter to the principals who make the offer, stating the amounts they wish to subscribe. The List of these is given in at the Bank, when the terms of the Loan are fixed, and the receipts, called Scrip or Subscription Receipts, are made out in the names of each individual, in the following form for each description of stock.

(Portion of £2000 Omnium).

£1258 13 4 Three per Cent Reduced Annuities, 1819.
To be added to the Reduced £3 per Cent Annuities.

H. No. 159

By Virtue of a Resolution of the House of Commons, for raising £12,000,000 for the Service of the year 1819.

RECEIVED of *James Gibb*, the Sum of *Eighty-eight Pounds*, for the Deposit of £10 per *Cent* on *Eight hundred and Eighty Pounds*, subscribed in pursuance of the abovesaid resolution; and upon due payment of the remaining £90 per *Cent* of the said sum of *Eight hundred and Eighty Pounds*, the said Subscriber or Subscribers, his or their Executors, Administrators, or Assigns, will in Exchange for this Receipt together with the Assignment thereof, become entitled to ONE THOUSAND TWO HUNDRED AND FIFTY-EIGHT POUNDS THIRTEEN SHILLINGS AND FOUR PENCE, Capital Stock of £3 *Per Cent* Annuities: the Interest to commence from the 5th day of *April*, 1819. Every Subscriber who shall complete the payment of his Subscription on or before the 17th day of February, 1820, will be allowed a Discount after the rate of £3 per Cent, per Annum, upon the Sum so completing his Subscription from the day of paying it, to the 17th day of *March*, 1820. £88

Witness my hand this 12th day of *June*, 1819.

Entd. William Storry. *J. Lambert.*

Rec. Eighty-Eight Pounds for second payment £88
Entd. James Ballard. *T. Bros.*

Recd. Eighty-Eight Pounds for Third Payment 88
Recd. ..... Do. ..... Fourth Payment 88
Recd. ..... Do. ..... Fifth Payment 88
Recd. ..... Do. ..... Sixth Payment 88
Recd. ..... Do. ..... Seventh Payment 88
Recd. ..... Do. ..... Eighth Payment 88
Recd. ..... Do. ..... Ninth Payment 88
Recd. ..... Do. ..... in full 88

£880

N. B. The second Payment, £10 per Cent, is to be made on or before the 23rd July. &c.

The following is the form of the Assignment accompanying the Receipt.

(Portion of £ 2000 Omnium).

£ 1258 13 4 Three per Cent Annuities, 1819.

To be added to the Reduced £ 3 per Cent Annuities.

H. No. 159

By Virtue of a Resolution of the House of Commons for raising £ 12,000,000 for the Service of the year 1819.

ASSIGNMENT.

I do hereby Assign all my Right and Title to the above described Receipt accompanying this Assignment, for One Thousand Two Hundred and Fifty-eight Pounds Thirteen Shillings and Four Pence, Capital Stock of Reduced £ 3 per Cent Annuities, 1819, unto

Executors, Administrators, or Assigns for value received this

Day of 18

Witness *Henry Smith.* *James Gibb.*

As soon as the bargain is concluded, the subscriptions become saleable; and, in the course of a few days after the first instalment is made, the receipts are issued. When the last payment is made, or when the payments are made in full, the blank in the assignment is filled up by the person to whom the Receipts belong, with his name, address, and profession, and being delivered to the Bank, he receives credit for the Stock to which they entitle him, in the Books of the respective Stock-Offices. This process of turning the receipts into Stock, requires three days to be completed in the ordinary routine of business; but, by the payment of a fee, the Stock Account may be raised, the same day that the payment is made in full.

It has been observed that these receipts are called SCRIP; but this only applies when they are separately considered or sold; taking all the receipts together they are called OMNIUM; and the difference in their value upon being sold is this; as Omnium takes all the Stock, &c, that is given for the Loan, its value is the amount which has been paid, with the addition of a premium or the deduction of a discount, if the price of Stocks is either higher or lower than the value of the Stock created by the Omnium; or rather, according to the demand for it, or the difficulty of finding a sale. Of a Scrip Receipt, the value is more immediately determined from the price of its Stock, with the deduction of the amount of the remainder of the instalments. It is not very commonly that Omnium is thus distributed.

Up to the present period, it has for many years been the practice of the Bank, after the second or third instalment has been paid, to accommodate the subscribers to the Loan, by paying the remaining instalments, except the last, which the subscribers have had to pay; and the Bank have fixed a day when their advances were to be redeemed with interest; on the failure of the parties keeping their engagements, the shares became forfeited, and were the property of the Bank. In the present Loan, the Bank have declined affording this assistance.

It is in a manner similar to this, that most of the loans to Government have been advanced, or rather, the manner in which the existing Annuities have been purchased.—In some instances the terms have been wholly specified by the Minister, and the public at large have been at liberty to make their subscriptions, without doing it through the medium of a contractor.—The Loyalty Loan of 1797 was thus conducted; but there has been no instance, since, of a similar arrangement.

Besides the creation of Annuities, by this direct Sale, it has been frequently a practice to grant them in exchange for various debts of Government, or for Bills issued by the Navy, Transport and Ordnance departments, &c, as well as for those called Exchequer Bills.—This exchange is usually termed funding the Bills, as the Annuities themselves are frequently called the public Funds; in some cases, Exchequer Bills have been received as Cash, in part of the payments of the loan, and sometimes as in the present Loan, with an advance upon their value.—Thus for every £ 1000 to be advanced, an Exchequer Bill for £ 500 (one half), would be received for £ 505, and the Interest which might be due; the remainder of the £ 1000 being paid in Cash.

THE SALE

OR

TRANSFER OF ANNUITIES.

It has been observed in the preceding pages, that when the payments of the Loan have been made in full, Accounts are opened for the Subscribers, or their representatives, in the Ledgers of the offices appropriated to the Stocks to be received in exchange; and, that notwithstanding it is called a Loan, the transaction is really the purchase of Annuities. Hence, the parties advancing the money are precluded from demanding it again of Government, but they have the right of transferring their interest to any person they may nominate.

In the purchase and sale of Stock, it is most usual for each party to employ a Broker, unless either should be what is termed a Jobber, or one whose business is a traffic in the Funds; for any other person would not only experience great inconvenience in his own management of the transaction, but he would be liable to lose much more than he would save, from the want of a sufficient knowledge of the state of the market.

The sale of an Unlimited or Perpetual Annuity, is made by the disposal of the Stock upon which it is calculated; the quantity sold is then taken off the account of the seller, and placed upon that of the purchaser, or the seller's account is debited, and the purchaser's credited for the amount transferred.

The lowest Sum that can be sold, is 1 *d* of either of the Stocks, and the same amount of a limited Annuity; but transfers are seldom made of any small sum, unless for the purpose of making up the difference of a fractional amount.—The amounts of Life Annuities are not allowed to be separated.

The usual routine of a Sale of Stock is this; a transfer note is made out by the Broker, stating the amount and description of the Stock to be transferred, and the particulars of the persons

both buying and selling. This note is left with the Clerk, or put into the transfer note-box belonging to the ledger, in which the seller's account is kept, in the proper Stock Office, for his examination, to ascertain the correctness of the seller's possessing the property to be parted with, and to prepare the requisite entry in the Transfer Book. When this is completed, the seller signs the book, and delivers to the purchaser a receipt made out in a particular form, stating the consideration given for the Annuity he sells. According to the directions of the Acts of Parliament by which the Annuities are authorised, the purchaser should also sign the transfer book, as accepting of the Transfer, in order to prevent any fraud by the forgery of the receipt, but from the pressure of business this is but seldom practised.

Except the particular days upon which transfers may be made, which will be noticed hereafter, the only regulations of any consequence are, that if the contract or transfer note is not given in before one o'clock, the entry cannot be made until the following day, unless a fee of 2*s* 6*d* is paid the clerk; and that no transfer can be made of Stock the same day it is purchased or brought into account. To the latter regulation the Bank, under particular circumstances, will admit of an exception, and allow an immediate re-transfer to be executed.

It may be noticed of the accounts of jobbers, that it is usual to check them with the clerks in the Stock Offices, before the commencement of business each morning. The amount then standing in their names, is the utmost they can transfer before the following day. Persons who wish to appoint others to act as their Attorneys, can procure letters of Attorney, from the office thus designated, authorizing their agents either to accept or transfer, or merely to receive their dividends.

About a month previous to the dividends becoming due, the Transfer Books are closed at the Bank, and the accounts of all persons are balanced up to that period. A list of these balances is then made out, the amount of which is necessarily the quantity of Stock recorded in that office. The dividend upon each item is accurately calculated in pounds, shillings, pence, and hundredths or thousandths of a penny, the correctness of which is proved, by the whole amount being the exact per centage of the quantity of Stock. This Balance Book serves as a check in the Dividend Warrant Office, where the person applying

for a Warrant to receive his dividend, is required to declare the amount of the Stock before he can obtain it. If any difference, or rather mistake, arises in the applicant's statement, the Warrant cannot be obtained, until the error is rectified; though, sometimes, when the party is well known, and the error is but trifling, it is set to rights without giving him much further trouble. By the present regulations, the dividends for odd sums above fives or tens of pounds, may be received in silver.

To prevent mistakes, the Transfer Books remain closed for about a fortnight after the dividends become due, and it is only by the party or his agent or attorney, in whose name the Stock was invested when the Books were closed, that the dividends can be received.

During the time that the Books are closed, as well as upon Holidays, no transfer can be made without special permission from the Court of Directors; but the case must be one of very great importance to warrant the application.

THE SINKING FUND,

OR

The Redemption of the Unlimited Annuities.

In the early period of those measures of Finance, which were adopted in this country for raising the requisite supplies of the year, by the mortgage of its future resources, Life Annuities, and Annuities for limited periods, as before observed, formed the only methods by which they were rendered effective. But though either assignable periods, or such as were probably not very distant, gave the certainty of the burthens thus imposed being removed, yet the unfavorable, if not extravagant terms upon which the money thus raised was obtained, rendered their weight so oppressive, that in the language of those days it was considered insupportable.

The natural consequence of this dislike to an immediate increase of taxation, was a diminution in the rate of the Annuities, by an extension of the time for which they were granted ; from single and joint lives, they were created for the duration of two or three lives, and, finally, to obtain all the alleviation then considered practical, they were rendered perpetual, but with the liberty of redemption. For a long period after the latter plan was adopted, as the price at which these Annuities could be redeemed was the Capital or Stock upon which they were calculated, scarcely any great addition was made to that capital, beyond the sum which was actually raised; for when the Perpetual Annuity was formed at a low rate of Interest, some other consideration was given, as a Life or a Limited Annuity, or Lottery Tickets at a reduced price. Hence during the continuance of this practice, the amount of the Stock created, and the amount of the money advanced in exchange, were nearly equal; and even in one instance, in the year 1755, £ 1,000,000 of money was raised for £ 900,000, Three per Cent Consols, but this was done through the medium of a lottery.

The first material deviation from this method, took place in the year 1781, when 21 millions of Stock were created for 12 millions

of money; since that period, the granting of Life Annuities with but one exception in 1789, has been abandoned; and, from 1813, there has been no increase of the Long Annuities, the following Loans having been raised entirely upon the Stocks.

By these measures, the right of redeeming the Perpetual Annuities, upon the payment of the amount of the Stock, was rendered almost ineffective; as the quantity thus formed was too considerable, to afford much probability of its being annihilated, upon the stipulated terms, from the resources of the nation. Still, however, as this was a most desirable object to be accomplished, many schemes were devised for this purpose, by the best of our political calculators, amongst the most eminent of whom was the late Dr. Price.

The basis of the Doctor's Theories, was, the advantage to be derived from the employment of money at Compound Interest, over the same at Simple Interest; and thus, as a single pound, if constantly improved in this manner, would in 50 years amount to nearly £11, and as £1 per Annum would in an equal time amount to nearly £210, while without the employment of the Interest as well as the principal, the amount would be but a trifle more than the sums laid out, it was concluded, that if a million of money were advanced yearly, for the purchase of the Annuities which had been granted, the whole then existing might be redeemed within the above time, since the amount of the stock upon which they were computed, was only about 238 millions.

That such would have been the ultimate effects of this measure, there can be no question, provided that a surplus to this amount had existed in the produce of the taxes; although it may be very doubtful, whether it would not have been a better line of policy, to have let this surplus been remitted, and by being employed by the individuals from whom it was derived, have been productive of greater general prosperity, than in the way it was proposed to be used by Government; it was, at that time, judged otherwise, and a Bill was brought into Parliament by the late Mr. Pitt, for carrying this scheme into execution.

The principal feature in the Sinking Fund that was thus established in 1786, was the placing at the disposal of certain gentlemen occupying official situations, of one million of money

annually, to be employed by them in the purchase of the Perpetual Annuities, which they were then to receive and appropriate to the continuation of the same purpose. This plan was in many respects, similar to one which had before been acted upon; except that a certain sum was fixed, instead of its being merely the excess in the produce of different taxes above the expenditure with which they were charged, and that what were considered inviolable regulations, were enacted, to prevent any intrenchment upon its operations, for the want of which the previous fund had been rendered ineffective.

Different additions have since been made to this annual million; Life and other Annuities which would have expired, have been continued and applied to it, with an extra £200,000 per Annum; one per cent upon all money borrowed has been, at times, set apart to assist the redemption of those loans, while the restriction was removed, which, at first, was imposed upon its amount. On the other hand, some of these regulations have been suspended or altered; by the plan adopted in 1802, such Annuities as have fallen in since that period, have ceased to be applicable to this purpose. In 1807 a temporary reduction was made in the fund, according to the enactments of a Bill introduced into Parliament by Lord Henry Petty, since which, in 1813, a material change was made in its principles, upon a plan of Finance proposed by the present Chancellor of the Exchequer, Mr. Vansittart, with the intention of providing for the Annuities created by fresh loans, without the imposition of additional taxes.

To omit going through the minutiæ of these regulations, it may be fully sufficient to give the following particulars.

1. When the present Sinking Fund was first established, the amount of all the Stocks then existing, was £238.231.248, and by the 1st March, 1813, the amount redeemed exceeded that sum, by nearly £118.895; and it was therefore proposed that the Annuities proceeding from the original debt, should be rendered applicable to defray the charges upon succeeding loans and the funding of bills.

2. When any future sums are to be raised or funded, to a greater amount than the sum estimated to be applicable to the discharge

of the public debt, one half of the excess is to be taken from the consolidated fund of taxes, and be placed at the disposal of the Commissioners of the Sinking Fund, with one per cent upon the capital created by the remaining half.

3. When the amount of the outstanding Exchequer Bills on the 1st of January each year, exceeds the estimated capability of the funds appropriated to their liquidation, one per cent upon the amount thus unprovided, is to be taken from the supplies of the year, and to form an addition to the income of the Sinking Fund.

4. The Land Tax, which had been rendered perpetual, and for which permission had been granted to the individuals interested to obtain its redemption, by the transfer to the Commissioners of an equal Perpetual Annuity, was proposed to be offered for purchase upon more favorable terms, in order to accelerate the cancelment of the National Debt.

As the efficacy of all these arrangements for their avowed purpose of diminishing the public burthens, has become very problematical, we shall not enter into any detail of their particular effects; in the commencement of the Sinking Fund, a surplus in the produce of the taxes, enabled the Commissioners to make a real deduction in the amount of the Annuities, by about £307,263, calculated upon about £10,242,100 Stock. This was prior to the war begun in 1793, since when no advantage of this nature has attended the Fund; for the amounts which have been nominally applied to this purpose from the produce of the taxes, have been either supplied from direct loans during the year, or have been furnished by the issue of Exchequer Bills, which have afterwards been funded.

On the contrary side of the question, it is affirmed that the quantity of Stock which has been redeemed by the commissioners, is less by several millions than the quantity created with the Loans, by which the money has been raised; for at all times when Omnium has been at a premium, the purchases of the Commissioners have been upon terms unfavorable to the intended operation of the Fund.

As these are facts which cannot be disputed, it appears, that these financial measures, if their value be estimated in this manner,

have increased rather than diminished the National Debt; but some considerable allowance must be made for effects, which are equally existent though not so obvious.—The magnitude of the purchases made by the Commissioners, has had a great influence upon all the speculations of the Stock Exchange.—A chance of getting rid of Stock, if necessary, without perhaps any very great sacrifice, has given confidence to all speculations, and particularly to such as those of taking the Loans.—For example, a loan of twenty millions, with a certainty of ten being repaid or laid out, was probably raised with less difficulty, or upon better terms, than merely the ten millions actually wanted would otherwise have been; and consequently, although more Stock was created than repurchased with the same amount, yet had no such resource been in existence, it is possible that that the Loan of the Balance might have been raised upon more unfavorable conditions, and on the whole, the Sinking Fund may have created a saving. The operation of this Fund is compared to the action of a fly wheel to a machine, it may altogether somewhat deteriorate its powers, but it gives steadiness to its motions, and enables it to overcome temporary accessions of pressure, which would otherwise be fatal to the continuance of its operations.

Recently, since no great expectation of future large loans has been entertained, the produce of the fund has been made available for immediate expenditure. In the present year, twelve millions of money are to be withdrawn from its income, according to the provisions of an Act of Parliament, called Mr. Fox's Act, and in exchange, there is the same quantity of Stock to be made over to the Commissioners, as is created by the loan of the same amount. The Sums receivable by the Commissioners at the beginning of the year, after deducting the annual grant of £1.200.000, were above fourteen millions of money; there will therefore be left a surplus of above two millions, which is proposed to be increased to five millions, by the addition of three millions of Taxes.

The following statement, will serve to give a general idea of the magnitude of the Annuities, and the extent to which the Sinking Fund has arrived; the particular amount of the Stocks is contained in page 324; and it is to be remarked, that in these amounts there is no notice taken of the Stock redeemed or paid off, before the year 1786, when the Sinking Fund was established.

	£	£
Amount of the Stocks		1.171.217.564
Stock cancelled by the operation of Mr. Vansittart's Plan	255.790.138	
Stock cancelled by transfers for the redemption of the Land Tax	25.502.093	
		281.292.231
Stock remaining in the Accounts of the Commissioners.....	103.449.673	
Ditto for Transfers on Account of Life Annuities.....	4.895.146	
		108.344.819
Redeemed and cancelled		389.637.050
		781.580.514
Redeemed by the East India Company		1.267.510
Net Amount of Stock		780.313.004
Remaining Debt of East India Company		3.132.490
		777.180.514
Debt due to the Bank, the Interest upon which is included with the following Annuities....		14.686.800
		£791.867.314

ACCOUNT OF THE ANNUITIES,

Including the Interest upon the Debt due to the Bank, but without the Dividends on the Consols and Reduced, occasioned by the Loan to the East-India-Company.

Annuities on Stock payable Jan. 5 and July 5		£ 18.158.469
Do. ..... do. ..... April 5 and Oct. 10		8.520.600
Limited Annuities ..... do. .... do.		1.351.915
Exchequer Life Annuities		42.393
Bank Life Annuities		329.437
Annuities on Irish Stock		977.731
Irish Life Annuities		43.909
Charges of management		279.888
		29.704.342
Annuities and annual grants receivable by the Commisioners for the reduction of the National Debt	£ 16.144.440	
Deduct, Bank Life Annuities	329.437	
		15.815.003
Whole Charge of the Annuities and Debt		£ 45.519.345

THE EXCHEQUER.

The Exchequer Court of this Kingdom, is the Court of Record for all transactions in which its finances are any ways concerned. The Legal Proceedings are under the directions of its Barons, and the management of its Treasury is now confided to several Commissioners, in place of the Lord High Treasurer, and to the immediate direction of the Chancellor of the Exchequer. The detail of the financial regulations usually passes through the medium of the Bank of England, by whom the produce of the taxes is received, and the greater portion of the expenditure of Government is paid.

The Bills which are issued under the denomination of Exchequer Bills, are engagements, sanctioned by Parliament, to pay the holder the sums specified in the body of the Bill, in general, out of the supplies that may be granted in the following year. This mode of raising money is one which has long been practised, though it is only within a few years, that it has been conducted on any large scale. The first Bills of this kind were circulated in the year 1696, to serve as a substitute for cash, during the re-coinage which then took place. They were afterwards used to anticipate the Revenue; and at various periods within the last five and twenty years, when the amount has become considerable, terms have been offered to the holders, which have generally been accepted, for funding them or converting them into Perpetual Annuities.

The rates of Interest which these Bills have borne, have very often been varied, or reduced. During the time that little regularity attended the periods of their payment, the rate was not only high, but they were issued at a discount, or sold by Government for a smaller sum than that which they entitled the possessor to receive. This deterioration in their value, was remedied by the measures adopted by the late Mr. Pitt, and as they are always found convenient for commercial purposes, to serve for the temporary investment of money, a large sum is constantly in the hands of the public; when the issue has become

excessive, a great portion of them has been funded. In general, in about a twelvemonth after the date they bear, they are publicly advertised to be paid off upon a certain day, when the Interest ceases; an option is commonly given to the holders, to receive fresh bills in exchange for the principal, but the Interest is paid as specified. They are receivable as cash, after certain appointed days, in payments of duties and taxes, but it is very seldom that they are so returned to the Exchequer, as the party paying them in, would thus lose the premium they are commonly worth. In a late issue of these bills, they were sold at a premium of £1 per £100, which was to be allowed upon such bills as were paid in for the instalments of the Loan, but since the contract was made for the Loan, the Bills have been issued at only 5*s* per cent.

The usual methods by which Exchequer Bills are issued, are, either by exchanging them for former Bills; by obtaining advances upon them by the Bank of England; or by selling them in the Stock Market, through the medium of the Government Brokers; in the latter case, the sale is made as by any private individual, either upon specified terms, or upon such as can be obtained.

It is generally the practice of Government when it is feared that any further issue of Bills will cause them to sell at a greater discount, to solicit the Bank to make an advance upon their credit; besides which, the Bank have been accustomed to purchase them in the open market, generally when at a discount, but never at a premium; in conformity with an established principle, of not buying any Government securities at an advance of price.

In the late account of the affairs of the Bank, they have represented themselves to be holders of nearly 19 millions of these Bills, of which, about 11 millions that have been advertised to be paid off, have been retained by desire of Government; and thus, contrary to the former regulations, the option of obtaining the money, and lessening their advances, has not been afforded them.

The amount of outstanding Exchequer Bills, at the beginning of this year, was about 49 millions, the Interest on which amounted to nearly one million and a half; the amount in the preceding year was considerably greater.

The following are the principal Parliamentary regulations, by which the issues of these Bills are guided.

They are to be placed under the entire controul of the Lords Commissioners of the Treasury, any three of whom constitute a quorum.

The Bills are directed to be signed by the Auditor, at present Lord Grenville, but an impression from a fac-simile of his writing, has been admitted to answer the same purpose.

The Bills are to be numbered arithmetically in regular succession, and the indents, cheques, or counterfoils, are to be preserved for the sake of better identifying them upon their return, and preventing the payment of counterfeits or forgeries.

Bills defaced may be exchanged, and, upon security being given, Bills which have been lost or destroyed, may be replaced by other Bills.

When Bills are paid in on account of the taxes or duties, the Interest ceases from that date, which must be written upon the Bill by the person tendering them in payment.

The Commissioners may contract with any persons for facilitating the circulation of these Bills, and the Governors and Directors of the Bank are not to be disabled from being members of Parliament, in consequence of any such engagements on behalf or for the benefit of themselves, and the Company of the Bank of England.

The Interest now borne by Exchequer Bills, issued for Government purposes, is 2 pence per cent, per diem, or £3 0 10 per Annum. The sums they express are £100, £200, £500, and £1000; and to prevent mistakes they are printed with differently coloured Inks.

£ 100 .. Bills....with..... Red Ink.
£ 200 ..... Yellow.
£ 500 ..... Blue.
£1000 ..... Black.

The form in which they are made out, is as follows.

No. 4844 *£ 100*

BY VIRTUE of an ACT Quinquag^{e} Octavo **Geo. 3. Regis** for raising the Sum of £ 30.000.000 by EXCHEQUER BILLS for the service of the year 1818.

This Bill entitles
or Order to **One Hundred** Pounds
with Interest after the rate of TWO PENCE per Centum per Diem, payable out of the first Aids or Supplies to be granted in the next Session of Parliament; and this Bill is to be current and pass in any of the Public Revenues, Aids, Taxes or Supplies, or at the Receipt of the Exchequer at WESTMINSTER, after the 5th day of April, 1819.

DATED at the EXCHEQUER, the 30th day of July, 1818.

Grenville.

If the Blank is not filled up this will be payable to Bearer.

N. B. The Cheques must not be cut off.

If the Blank is filled up, it must be endorsed, and the endorsement may be either special or general. In the Stock Exchange, a preference is always given to Blank Bills, as there is a possibility of the endorsement being forged.

COMMERCIAL EXCHEQUER BILLS.

Besides those Bills which the Treasury is authorised to create, for the purpose of assisting the finances of the kingdom, Parliament, at different periods of national distress, have given permission for the issue of a limited amount of Bills, to be advanced as a loan to in-

dividuals, or to the directors of public works, upon sufficient security being given for their payment when due.

A few years ago, a large loan of this nature was granted in aid, chiefly of Merchants and Manufacturers; and latterly, in June, 1817, a grant of Exchequer Bills to the amount of one million five hundred thousand pounds for the use of Great Britain, and two hundred and fifty thousand pounds, in Treasury Bills, for the use of Ireland, was authorised under similar precautions for repayment, to be employed in aid of public works, and the fisheries, and for the general employment of the poor.

These Commercial Bills, as they are styled, bear Interest at the rate of two pence halfpenny per Cent per Diem, and are payable with the Interest in the following manner.

By an amendment in the original Act, the day of payment is fixed to be the 10th October, 1820; and what Bills may not then be discharged, are receivable in payment of Duties and Taxes.

The amount for which the Bills are granted, is to be repaid within fifteen days of the Bills becoming due, with the amount of the Interest at five per Cent per Annum; but the Commissioners for the execution of the Act, may extend, upon conditions, the periods of repayments.

If, when the Bills become due, repayment to a sufficient amount has not been made, the deficiency is to be made good, out of the money arising from the aids and supplies for the service of the year 1820, but like the ordinary Exchequer Bills they will not be paid at the Exchequer, until they are publicly advertised.

Although the Bills issued under the Act, bear a greater rate of Interest than the usual Bills, they may be purchased in general at a less price, by sixteen or twenty shillings.

The office appointed by the Commissioners, is in part of the buildings belonging to the South-Sea Company in Threadneedle-Street, under the title of the Exchequer Bill Loan Office.

THE BANK OF ENGLAND.

The establishment of this Company took place in the year 1694, under the authority of an act of Parliament for raising a sum of money towards carrying on the war, then conducted against France, under the singular Title of, an Act, &c.

The amount of the first subscription was £1.200.000, for which an Interest of 8 per Cent was allowed the Company, with £4000 per Annum, for the expenses of managing their own affairs.

The duration of their charter was limited, at first, to eleven years from the commencement, but it has been repeatedly renewed, and it is now extended to the 1st August, 1833.

The original privileges which the legislature conferred on the Bank, were, the permission to purchase and retain Lands, and to deal in Bullion and Bills of Exchange. No other Company consisting of more than six persons, was to be permitted to issue Promissory Notes, payable either on demand, or for a less date than six months; while, on the part of the Bank , the Corporation was particularly prohibited from making any other advances to Government.

The former part of these regulations still continue in force, but with respect to the advances for the state, many alterations have taken place; almost every Act for the renewal of their Charter, has required them either to make further permanent advances, or to reduce the Interest on the debt; besides which, in 1792, they were allowed to make advances upon Bills of Exchange, drawn upon and accepted by the Lords of the Treasury, and for more than twenty years past, there has scarcely been any Act passed for the issuing of Exchequer Bills, of which the Bank has not been allowed to take either the whole or a part. Within a few years after its establishment, the Bank began to act as the Bankers of Government, in the receipt of the money advanced for what are termed Public Loans. The pay-

ments of the Dividends or Public Annuities, were soon confided to their care, and so materially has their agency become necessary for the management of the Finances of this Country, that no project of importance is attempted to be carried into effect, without their being previously consulted.

The most important epoch in the history of the affairs of the Bank, is, the restriction imposed upon them in 1797, to prevent the payment of their notes in specie; which has been continued until the present year, when the following regulations for the resumption of cash payments have been adopted.

The Bank are liable to be called upon to deliver Gold, in Bullion of the standard fineness, in any quantity of not less than 60 ounces, in exchange for Bank Notes,

From the 1st February, 1820..at the rate of. £4 1 0 per oz.
From the 1st October, 1820..... 3 19 6
From the 1st May, 1822 ..... 3 17 10½
From the 1st May, 1823, The Bank are to pay all Notes on demand, in the current Gold Coin of the Realm.

Between the 1st February 1820, and the 1st May 1822, the Bank may undertake to deliver Gold in Exchange, at any rate between £3 19 6 and £3 17 10½, but when they have fixed upon the rate, it is not afterwards to be changed.

These, with the recommendation of returning the Bank £10.000.000 of their advances upon Exchequer Bills, and of repealing the then existing laws against the melting and exportation of Coin, formed the substance of the Bill introduced into Parliament by the Chairman of the Committee of Finance, and which Bill has since passed into a law.

The Capital of the Bank upon which the Stock-holders divide their profits, is £ 14,553,000, formed, principally, by the Subscriptions of the original proprietors, and of such persons as joined them when they enlarged their capital, and by different additions from their accumulated profits.

Of the sources of income possessed by the Bank, no very accurate account can be given. They proceed principally from,

The Interest upon their permanent advances.

The Interest upon their temporary advances, and upon Exchequer Bills.

The sums paid by Government for receiving the Loans, and for managing the transfers and paying the dividends; and,

The produce of that portion of their capital which is employed in the discounting of Bills.

The aggregate amount of the net profits has enabled the Company to divide 10 per Cent upon their Capital making £1,355,000 per Annum, besides leaving a surplus to increase the Balance.

The investigation to which the proposed continuation of the restrictions gave rise, disclosed to the public the following statement of the accounts of the Bank, made up to the 31st March, 1819.

The balances in their favour appeared to be,

	£
For Advances to Government upon Exchequer Bills for the Duties on Malt; on a loan in 1808—a Supply in 1816, at 4 per cent; Interest due on these accounts and Loans to Government upon unclaimed dividends.	9.078.330
Cash and Bullion—Exchequer Bills purchased, Interest on Bills and Notes Discounted, Treasury Bills for Ireland, Money Lent, &c.....	30.101.420
	39.179.750

The Balances against the Bank were

The outstanding Bank Notes	£24.710.770	
Other Debts	9.237.790	
		33.948.560
Leaving a Balance in their favor		£ 5.231.190

Besides the original advances of the Bank Capital amounting to £11.686.800, for which they receive an Interest of 3 per cent, and their advance, in 1816, of £3.000.000 at the same rate.

The following are the chief regulations in the internal conduct of this Establishment.

The management is entrusted to a Governor, Deputy-Governor, and twenty-four Directors, subject to the control of the general Courts of the Proprietors of Bank Stock.

To be eligible they must possess ;

For the office of Governor.... £4000 Stock.
Deputy-Governor.... £3000 Stock.
Director .... £2000 Stock.
Proprietor ... £ 500 Stock, for at least 6 months, to entitle him to a vote in the general Courts.

Amongst themselves, the Directors are separated into the Senior and Junior Directors. The Senior Directors are those who have filled the office of Governor, and they afterwards continue in the direction without interruption, unless they become disqualified by not possessing a sufficient quantity of Bank Stock.

The Senior Directors, with the two Chairs, or Governors, form the Committee of Treasury, to whom are confided all the negociations with Government, and it is they only of the Directors who are acquainted with the true state of the Bank Affairs.

The Junior Directors serve in that capacity two years ; it is then required that they should vacate in rotation for one year, when they are again eligible and are usually elected.

By the Bank Charter, the Directors are required to be annually elected by a general Court of Proprietors, between the 25th March and the 25th April.

The Governor and Deputy-Governor serve in these offices for two years, the latter universally succeeding the former.—Out of the twenty-four Directors, not more than sixteen can be rechosen for the following year, eight going out of office in one year, and seven in each of the two succeeding years, one in the first of these years becoming Deputy-Governor.

The following is a List of the Governor, Deputy-Governor, and Directors for the present and the two preceding years, showing the order in which they go out in rotation.

	1817	1818 and 1819.
Governor	J. Harman, Esq	G. Dorrien, Esq.
Deputy Governor	G. Dorrien, Esq	C. Pole, Esq.

Senior Directors..
C. Buller, Esq.
H. Davidson, Esq.
J. Harman, Esq.
B. Long, Esq.
W. Manning, Esq.
W. Mellish, Esq.
J. Pearse, Esq.
Sam. Thornton, Esq.
J. Whitmore, Esq.

Junior Directors for the years

1817	1818	1819.
G. Blackman, Esq.		G. Blackman, Esq.
S. Drewe, Esq.		S. Drewe, Esq.
W. Haldimand, Esq.		W. Haldimand, Esq.
T. Langley, Esq.		T. Langley, Esq.
J. Pattison, Esq.		J. Pattison, Esq.
C. Pole, Esq.	Deputy Governor...	
W. T. Robarts, Esq.		W. T. Robarts, Esq.
Sir R. Wigram.		Sir R. Wigram.
J. Bowden, Esq.	J. Bowden, Esq.	
J. Campbell, Esq.	J. Campbell, Esq.	
J. H. Palmer, Esq.	J. H. Palmer, Esq.	
J. Staniforth, Esq.	J. Staniforth, Esq.	
A. H. Thomson, Esq.	A. H. Thomson, Esq.	
S. Turner, Esq.	S. Turner, Esq.	
W. Ward, Esq.	W. Ward, Esq.	
	J. J. Holford, Esq.	J. J. Holford, Esq.
	E. Maitland, Esq.	E. Maitland, Esq.
	Sir T. Neave.	Sir T. Neave.
	J. Olive, Esq. succeeded by..	S. Hibbert, Esq.
	R. M. Raikes, Esq.	R. M. Raikes, Esq.
	J. B. Richards, Esq.	J. B. Richards, Esq.
	H. Smith, Esq.	H. Smith, Esq.
	Step. Thornton, Esq.	Step. Thornton, Esq.

To obtain admission into the Bank as a clerk, it is necessary to have the nomination of a Director, and when the Court thinks proper to admit fresh clerks, they are elected in the rotation of the Directors' privileges.

The Governor possesses the right of nominating two clerks when each of the Directors nominates one; and for every six clerks elected he has the extra privilege of appointing one who must be the son of a clerk in the Establishment.

The person admitted, is required to be, at least, of the age of 17 years, and to find two securities in the sum of £500 each, to make good any loss to that amount which the Bank may sustain by his misconduct. The applicant undergoes a slight examination in the Accountant's Office, as to his proficiency in writing and calculations, and the Court then decides into which of the two departments of the Accountant or Cashier, he shall be placed, from which department when entered there is seldom any removal. The clerks of the Bank are strictly forbidden, under pain of expulsion, from acting as Brokers or Jobbers in any of the funds.

The number of the different Offices in the Bank is about 45, the number of the Officers, Clerks, &c, is nearly 930, with about 80 Messengers, Porters and Watchmen.

The days of transfer for Bank Stock, are Tuesdays, Thursdays, and Fridays. The expense of executing a transfer is 9*s*, if the Stock transferred does not exceed £25, or 12*s* for any sum above.

THE SOUTH SEA COMPANY.

The Establishment of this Company as a Corporate Body, having the privilege of carrying on an exclusive Trade with all places, from the River Orinoco to the South Cape, and with the whole of the Western Coast of the Northern and Southern Continents of America, was granted in consideration of the Company so appointed, making purchase of all the unprovided Debts of Government from the Individuals possessing the Claims.

The amount subscribed for this purpose, was £ 9.177.968, for which the Company were allowed an Interest at the rate of Six per Cent, from the produce of certain Duties that were levied for that purpose.

It may be readily supposed, that as the greater part of the assigned Territories were those from which British Subjects had long been carefully excluded, no great results were rationally to be expected from their Trade; yet as the East India Company with, at one period, very little better prospects, had obtained great wealth from their traffic with the Eastern World, it was hoped that similar success would ultimately attend the South Sea Company, and that the wealth of Peru would be laid at their disposal.

The Charter for the Company was obtained in 1706, and the benefit of a contract made with Spain was transferred to them at the peace of 1713.

This permission or engagement, which was called the Assiento Contract, conferred upon the Company the right of furnishing the Spanish Mines and Plantations with Slaves, and of sending one large Ship annually to the Spanish West Indies, with a particular assortment of European Goods, principally consisting of our woollen Manufactures.

In 1715, by an application of the Interest and Sums received for management, the Company's Capital was increased to 10 Millions, and in 1720, proposals were made by Government to the

South Sea Company, to purchase of the public Creditors the amounts of their Debts, and of all annuities except those granted for Lives, for which the Company were to be allowed certain nominal Capitals, or Stock, bearing Interest with their preceding Stock, at the rate of five per Cent.

No other particular advantages were to be received by the Company, as at their first Establishment, but on the contrary they offered to give the sum of five millions of money, for permission to make these purchases; yet a general opinion at that time was entertained, that the Government would form an Exchange of places with Spain, and giving the Company a footing in South America, enable them to realize all their splendid Ideas.

The contention to subscribe, or purchase the Company's Stock, to which these rumors gave rise, advanced it in value to above 1000 per Cent, to the immense advantage of those by whom they were propagated; all this took place in the course of less than a year, when at length the delusion was exposed, and very great distress was experienced by those who had invested their money in making the Purchases. Between the 8th December when the discovery took place, and the 29th of the same month, the Stock fell nearly 850 per Cent; a violent outcry against those who had enriched themselves by these artifices, was raised in the Nation, and upon Parliament interfering, above a Million and a half of money was repaid to the proprietors, from the produce of the delinquents' Estates.

The arrangement made with the Company for taking charge of all the public Debts, was, however, generally carried into effect; and as the few which remained were afterwards discharged by the Sinking Fund, all the other public Annuities now existing, date their origin subsequent to that period. The oldest belong to the Three per Cent Stock of 1726; for the nominal Exchequer Life Annuities of King William and Queen Mary, have in all probability long since terminated, though no official information has been received of the fact.

The Interest on the Company's Capital has been successively reduced from 6 to 3 per Cent, and the Stock has been distributed into different Portions in the following manner.

The original Capital was	£	9.177.968
Surplus of Interest, &c, added in 1715		822.032
		10.000.000
Subscribed for Lottery Annuities in 1719		1.746.844
General Subscription of 1720		26.055.359
		37.802.203
Sold to the Bank in 1722		4.000.000
Net Capital	£	33.802.203

In 1723, this amount was divided into two parts; one was called the Company's Trading Capital, and the other the Joint Stock of South-Sea Annuities,—the former being £ 16.901.103
and the latter £ 16.901.100

Of this joint Stock of OLD SOUTH SEA ANNUITIES, being 16.901.100
There was paid off at different times 4.993.630
Leaving, net £ 11.907.470

Of the Capital of the Trading Stock 16.901.103
There was at various periods repaid 2.250.000
Making the net Trading Capital to be £ 14.651.103

This, in 1733, was divided into Four parts, of which one part forms the present Capital of the SOUTH SEA STOCK, amounting to 3.662.784

The remaining three-fourths were called NEW SOUTH SEA ANNUITIES, and amounted to. 10.988.319
Of which there was repaid 2.493.489
Net remaining Stock £ 8.494.830

Of the above remaining amounts of the New South Sea Annuities, nearly Four Millions have been cancelled by Mr. Vansittart's Act, and of both the Annuities nearly Seven Millions and a half, stand in the names of the Commissioners for the reduction of the National Debt.

When the Interest upon the South Sea Annuities was reduced to 3 per cent, as many of the Proprietors refused to accede to this measure, the sum of £2.100.000 was borrowed at that rate, to pay their demands, and the stock created by the loan was termed the THREE PER CENT ANNUITIES of 1751.

From this capital of.....	£2.100.000
There was paid upon various conditions	180.400
Leaving a net capital of.....	£1.919.600

The management of this stock, was also placed under the South Company.

It is to be observed, of this distribution of the capital of this Company, that under its original appellation of the trading capital, it was considered as a debt due by the nation of the same nature as the advances of the Bank, and of the East India Company, rather than as a stock for the calculation of Annuities; for, to the interest which the South Sea Company were to receive upon the amount, the expected profits from their trade were to be made an addition, precisely in the same manner as the profits of the Bank. Upon the partial discovery of the fallacy of these expectations, the capital was divided into two parts, and one half of each Proprietor's Stock, was written off his account and created into a capital for the Old Annuities, which might be disposed of, without losing any portion of the still hoped for advantages. A very few years however served to show how completely ungrounded they were, and, in consequence, three-fourths of the remaining half, were taken from each Stock-holder's account, and formed into what are called the New Annuities. Thus the original permanent Capital of the Company, except the share which was sold to the Bank, was reduced to one-eighth of its former amount, and what trifling gains arose from the allowance made by Government, for the management of the Annuities and Transfers, with the fines to which they were entitled from ships trading within the bounds of their Charter, were calculated upon this reduced portion, and they enabled the Company to add one-half per Cent, to the three per Cent they were allowed as an Annuity.

In 1815, the privileges of an exclusive trade, being surrendered by the Company, a duty of two per Cent was laid upon all goods, except the produce of the Fisheries, that may be imported from any places within the limits of their charter, with a duty of 1*s* 6*d* per ton on all ships loading to those places, and the amount is to be invested in the purchase of either Three per Cent Consols or Reduced, until they amount together, to £613.466 Stock, being one half per cent on the trading capital; and this sum is then to be transferred, as a compensation, to the company. In the intermediate time, deficiencies in this profit of one half per cent, are to be supplied by Government.

The Dividends on the South Sea Stock, the New South Sea Annuities and the Three per Cent of 1751, are due on the 5th of January and the 5th of July. Those upon the Old South Sea Annuities, are due on the 5th of April and 10th of October.

The days of transfer, are, for

South Sea Stock.....
Old South Sea Annuities } Monday, Wednesday and Friday.
New South Sea Annuities.. Tuesday, Thursday and Saturday.
3 per Cent, 1751.... .... Tuesday and Thursday.

On these days the transfers must be completed by 2 o'clock, except on Saturdays, when they must be finished by One.

The expense of a transfer, if the Stock is under £100, is 9*s* 6*d*, if £100 or above, 12*s*.—The expense of an extra transfer is 3*s*. 6*d*.

THE EAST INDIA COMPANY.

The first Charter that was obtained for the establishment of this Company, was granted by Queen Elizabeth in the year 1600; it conferred upon them the exclusive privilege of trading with all countries, South of the Cape of Good Hope, and the Straits of Magellan. The possession of these rights was continued with some variation, and interruptions, until the year 1698, when in consideration of the sum of £2.000.000, which was advanced as a loan at 8 per cent to Government, a new company was created; but a short trial of the mischievous consequences to which they were both exposed from their rivalry, induced the two Companies to associate their interests, when they formed one joint concern, under the title they now bear, of The United Company of Merchants of England trading to the East Indies.

In 1708, The United Companies, advanced an additional sum of £1.200.000, and in 1744, another £1.000.000 upon which they received an Interest of 3 per cent, until the year 1793, when this Stock was incorporated with the Reduced 3 per cent Annuities; of this debt of £4.200.000, the Company had previously sold £2.992.400, retaining only £1.207.600 in their own hands.

The actual Capital with which the Trade of the East India Company has been conducted, is £7.780.000, but from the various rates at which it was advanced, the nominal Capital is only Six Millions, upon which the Annual Dividends, from Midsummer 1798, have been 10½ per cent.

The great political power which this Company has acquired, has necessarily occasioned a frequent interference from the Legislature, in the management of all its departments; a Board of Controul over its affairs has been established, and in the late renewal of its Charter, the privilege of exclusive Trade, ex-

cepting to China, has been nearly abolished. On the other hand, at different periods, the Company have received permission to borrow several millions of money upon the security of their bonds; nearly three millions of money has been granted them in compensation for the expenses incurred by them in the public service; and, in 1812, a loan of £2.500.000, was granted out of the sums raised for the supplies in that year.

The principal regulations or conditions under which the Trade has thus been thrown open, are, that the only places to which vessels may proceed, are Calcutta, Madras, Bombay, and Prince of Wales's Island; but special licences for other places may be granted by the Company, or, upon their refusal, by the Board of Controul. That no vessel under 350 tons shall be employed. That the importation of Silk and Cotton Goods shall be confined to the port of London. And that the importation of Tea without licence from the Company shall be strictly prohibited.

The Act of Parliament by which these arrangements were established passed in the year 1813, when the date of the continuance of the Company's Charter, was extended to April 10, 1834; The Act directs, the net proceeds of the Company's Sales in this country to be applied;—First, in paying Bills of Exchange;—Secondly, the payment of other Debts, with Interest only on the Bond Debt;—Thirdly, the payment of a Dividend of 10½ per cent, on the capital; and Fourthly, the payment of the Interest and Sinking Fund of the Loan of 1812.

Any surplus of either their Territorial or Commercial Revenue, is to be applied to the reduction of their Indian and Bonded Debt, and upon these being reduced to 10 Millions and 3 Millions, one sixth of the surplus is to belong to the Company, and the remainder is to become the property of the public.

Subject to the orders of the Board of Commissioners for the Affairs of India, or the Board of Controul, the management of the civil and military Government of the Company, is entrusted to twenty-four Directors, out of whom are elected a Chairman and Deputy Chairman.

The qualifications with regard to the possession of India Stock, are,

For a Director	£ 2,000
Proprietor to possess one vote..	1,000
Two votes..	3,000
Three votes	6,000
Four votes	10,000

The party must be in possession of the Stock at least one twelvemonth, to entitle him to these privileges, unless he acquires it by bequest, marriage, or inheritance, when he immediately obtains the rights which belonged to the original Proprietor.

Six of the Directors vacate their seats annually, in rotation, but after the lapse of a twelvemonth, they are eligible to be re-elected.

The general Courts of the Company, are held in the months of March, June, September, and December, but special Courts are occasionally held upon the requisition of the Proprietors. The Court of Directors is held every Wednesday.

The Company's affairs are divided into several distinct branches, which are each managed by a Committee of the Directors, with different officers.

The whole of the Establishment is conducted upon a scale of the greatest liberality. In the Home Department, young men who succeed in getting an appointment upon the Establishment, serve for three years without any regular salary, but not without some remuneration, after which they rise in gradation to the situations of Heads of Offices and Warehouses. The extra Clerks, have a salary from their commencement, but they are precluded from any advance while in that situation; if, after the period of seven years service, they succeed in getting an appointment as a regular Clerk, they enter at once upon the full salary.

In the Indian Civil Department, upon an appointment being obtained, the party nominated, is required to spend two years in the Company's College at Hertford, in preparing himself in a course of Liberal Education, and in acquiring a knowledge of the

Oriental Languages, for the very important situations in which it is possible he may be placed. On his arrival in India, he is appointed a Clerk, or as he is styled, a Writer; in the progress of his service, he becomes successively a junior and senior Merchant, with the probability of filling the highly responsible office of a Resident at the Court of one of the Native Princes, or a Member of the Supreme Councils.

In the Military department, the nominees have usually been required, of late years, to pass through a course of studies, and practice of the military exercises, at the Company's College at Addiscombe, near Croydon; but upon particular emergencies this has been dispensed with. According to the degree of proficiency they are reported to possess, and to the vacancies in the different departments, they receive their appointments to serve in the regiments of Infantry or Cavalry, or in the corps of Artillery and of Engineers.

INDIA STOCK.

The transfers and payments of the Dividends on India Stock, are conducted at the India House, in the same manner as with Government securities at the Bank. The Dividends are due on the 5th January and 5th July, and as before stated, the rate is ten and a half per cent per Annum. The highest Dividend ever paid by the Company, was that at Midsummer 1771, at the rate of $12\frac{1}{2}$ per cent, which was succeeded in another twelvemonth by one of only six per cent. These fluctuations are now avoided, by the directions of the Act by which the Company's Charter was renewed.

The highest and lowest prices for which this stock has sold since 1720, were in December 1768, at $276\frac{3}{4}$ per cent, and in January 1784, at $118\frac{1}{2}$ per cent; the Dividends at the former period were 10 per cent, and of the latter, 8 per cent, and the variations in the prices were therefore rather occasioned by the appearances of future success or disaster, than from any present great surplus or deficiency in their revenues.

The Transfers at the India House on Tuesday or Thursday must be executed by 2 o'clock, and Saturday by one.

The expense of executing a Transfer of India Stock is,

£ 1 10 if the sum of Stock does not exceed £ 10.

£ 1 14 if above £ 10.

The extra charge for private transfers is 2 *s.* 6 *d.* each.

INDIA BONDS.

The following form of one of the Bonds which are issued by the East India Company, so fully explains the conditions to the performance of which they are bound, that very few further observations are necessary.

They are given for the different Sums of £ 100, £ 300, £ 500, and £ 1000, and the rate of Interest which they have borne has been frequently varied; for many years it remained at 5 per Cent; but on 17th Sept. 1817, the Company gave notice of their intention to reduce it to 4 per Cent, from the 31st March, 1818, which is the rate the Bonds have since carried.

The Interest is due on the 31st March, and the 30th Sept., and is very regularly paid.

When six months Interest are due upon the Bonds, they are receivable by the Company as Cash, in payment of any purchases made at their Sales; but as the Bonds have generally been at a premium, which would be thus lost to the holder, it has been but seldom, thatt hey have so returned to the company.—This regulation has a similar effect, but to a greater degree, with that adopted in Exchequer Bills; as it keeps up their credit or value, and prevents their being at any considerable discount.

They are signed on behalf of the Company, and by order of the Courts of Directors, by the Accomptant and Deputy Accomptant; the clause by which the Company bind themselves for the due performance of the Conditions, in the penal sum of double the amount of the Bond, is introduced merely in compliance with the usual form of these legal instruments.

FORM OF AN EAST INDIA BOND FOR £ 500.

No. (K) 115 £500

THE UNITED COMPANY OF MERCHANTS OF ENGLAND trading to the EAST INDIES, do acknowledge to have received of *John William Smith*, Five Hundred Pounds, which the said Company promise to repay to the said *John William Smith*, his Executors, Administrators, or Assigns (by indorsement hereon), with Interest for the same from the Thirty-first day of March last, after the rate of Five Pounds for One Hundred Pounds for a Year, at the East India House in LEADENHALL STREET, LONDON, on Six Month's notice to be given by the Company in the London Gazette, or on Six Month's notice to be given by the said *John William Smith*, his Executors, Administrators, or Assigns, to the Company's Accomptant, in Writing, at the EAST INDIA HOUSE aforesaid; for the true payment whereof, in manner aforesaid, the said Company do hereby bind themselves and their Successors, in the penal Sum of One Thousand Pounds.——IN WITNESS whereof the said Company have caused their common Seal to be hereunto affixed, this tenth day of August, 1812.

No. (K) 115

Signed by Order of the COURT OF DIRECTORS of the said COMPANY. L. S. ( )

Chas. Cartwright.

Geo. Paterson.

THE STOCK EXCHANGE.

The establishment of a private market for the purchase and sale of Government Annuities, is but of very recent date; the practice formerly being, for persons concerned with the disposal of the Public Funds to assemble at the Royal Exchange, or more particularly at a celebrated Coffee House, called Jonathan's, in Change Alley. Upon the increase of this business, a room was opened in Threadneedle-street, to which every one had admission upon the payment of a trifling daily subscription, until it was found necessary in order to better guard the great property which was thus carelessly exposed, to exclude all persons but annual subscribers, and to place the concern under the government of prescribed regulations. In a very short period afterwards, a subscription was entered into by the principal frequenters of the Stock Market, and a new building was erected for their accommodation, in Capel Court, Bartholomew Lane.

The commencement of the business of the new Stock Exchange was in March, 1802, under the entire control of a Committee for General Purposes, who have adopted the following as the principal of their Rules and Regulations.

The admission of subscribers is entirely at their option; their re-election commences in the first Monday of March in every year.

On the 25th of March, or the following day, if the 25th should fall on a Sunday, a general meeting is to be held of the Proprietors and Subscribers, of whom Thirty are to be chosen by ballot, as the members of the Committee for the following year.

The Subscriptions commence from the 25th March, and each Subscriber pays in advance Ten Guineas per Annum.

Any person desirous of becoming a member must be recommended by two Subscribers, who with the applicant must sign the

regular Letter descriptive of the Party, as to his residence, and who are his Bankers. Notice of this application is put up in the Stock Exchange for eight Days previous to a ballot being taken for his admission, when the Subscribers introducing him are required to attend, and answer any interrogatories put to them by the Committee, particularly as to whether, they themselves would be willing to do business with the Person wishing to become a member.

Besides any particular objections which may be made by the Members of the Stock Exchange, and which upon investigation may prevent his admission; no foreigner, not naturalized, or not having Letters of denization; no Clerk in the Bank of England, East-India-House, or South-Sea-House, or any other public or private Establishment, without permission from the Governors, Directors, or Principals; and no person amenable to the Bankrupt Laws, is eligible to become a member of the House.

Defaulters and Bankrupts cease to be members, until readmitted by the Committee; and every person guilty of dishonorable Conduct, or who violates any of the fundamental Laws, is liable to expulsion, and to have his name affixed on the Black Board in the Stock Exchange.

The members are permitted to have a Clerk to act for them, upon nearly the same conditions as those to which the members are subject.

The Committee elect a Chairman and Deputy Chairman from amongst their own body, and also appoint a Secretary from the members of the Stock Exchange.

Amongst the Privileges which this Committee possesses, one sometimes of much importance, is, that of determining whether or not the Stock Exchange shall be shut upon any of the usual Holidays, except Good Friday, Christmas Day, and the Days appointed by Proclamation for Fasting or Thanksgiving.

As the principal of other regulations adopted by the Committee of this Establishment, are those by which the general Business in the Stocks, &c, are guided, we shall not particularize them in the following detail.

OF THE CONTRACTS FOR PURCHASE AND SALE.

The members of the Stock-Exchange are divided into Jobbers and Brokers. The former are those who purchase and sell upon their own Account, and the latter upon the Account of other persons.

In bargains for immediate transfer, if the Broker is restricted to a particular price, he makes a public offer of the Stock, &c, or otherwise accepts of the best terms he can get. It is usual for the purchaser to pay his Broker, who when the transfer is executed, gives the seller a draft upon his Banker for the amount. If given to Jobbers or Brokers, it is most usual for these drafts to be paid in to their Bankers, and thus they pass through the medium of the clearing House. It has occurred that the Purchaser's draft has not been honored, and in this case, from the regulation adopted at the Bank of not allowing any re-transfer the same day, the seller has been able, the next morning, to stop the transfer of the Stock sold, and with some trouble and expense, to get it back again into his Account.—If the Purchaser has paid his Broker, and the Broker gives the seller a draft upon his banker which is not paid, the Seller cannot then obtain the interference of the Bank.

When Stock is sold upon a non-transfer day, or after half-past two o'clock upon an open day of business, to be delivered the next transfer day, it is called with the preceding, a money bargain, but it is frequently of the same character with the following, or of a bargain for time.

When a contract is entered into for the purchase or sale of Stock at a distant period, it is usually for the following settling day, and it is called a purchase &c, for Account, or, for Opening if the books of the Stock be shut. Bargains are sometimes made for other particular times, but they are not very common.

By the enactions of Parliament, all bargains for a distant period are illegal, unless the purchaser can prove his possession of sufficient money to pay for the Stock, or the seller can show that he was actually the holder of the Stock he sold—as either party is otherwise liable to a penalty of £ 500.

In the general business of the Stock-Exchange these regulations are but little regarded, bargains for time form the greater part of the transactions, without any other consideration than the obligation of the contractor to fulfil his engagements, at least to the best of his power, or to relinquish every claim to future confidence.

The routine of the business is, for both parties to make a memorandum of their bargain, and to check it the following day, when, if any dispute arises, it is referred to the Committee, by whose decision both must abide.

On the settling day, if the purchase or sale is to be carried into effect, by a quarter before one o'clock the purchaser must give the seller a transfer ticket, for which he receives in exchange a receipt; and if the ticket be not delivered by the above time, the seller has a right to demand the expense attending a private transfer; if not delivered by two o'clock, he has the right of immediately re-selling the Stock, through the medium of a Broker, and claiming of the purchaser whatever loss he may sustain; on the other hand, if the purchaser has not had the Stock transferred or delivered to him before the close of the business, he may make his purchase the next morning at 11 o'clock, through the above-mentioned medium, and make a demand upon the seller for any damage that may arise.

In all these bargains, it is frequently not known with certainty whether the Stock contracted for will be sold or demanded; when the seller has not the Stock to deliver, and the purchaser does not wish to receive it, he makes a nominal re-sale of it to the seller according to such terms as may be mutually agreed, and settles as a gain or a loss, the amount of the difference; and it is rather in these speculations, than with any intention of really buying or selling, that the greater part of the business of the Stock-Exchange consists.

In the settlement of these bargains, the differences are payable by 11 o'clock the following morning; sometimes, when the amount is large, and the party owing the money is unable to pay it, the account is left open until the next settling day, a premium of from One to Three per Cent, being paid for what is thus called a continuation.

When a person is unable to meet his engagements, he usually notifies it in a letter to the Clerk of the Committee, when he is immediately and publicly declared a defaulter, and an account is taken of the prices at which the Stocks then are, by which the amount of his differences are determined. It is then expected that the whole of the defaulter's property will be given up to his creditors, without any reserve, and if there is no impeachment of his conduct, he is shortly afterwards re-admitted a member of the house; otherwise, he is not re-elected.

As there are very few of these bargains that could be legally enforced, the surrender thus expected is dependent upon the honorable feelings of the defaulter, and the desire he may have of continuing the same business; and the only check against his embracing the contrary alternative, is the disgrace of being placarded upon the black-board of the Stock-Exchange.

The parties to these speculations are designated by the titles of Bulls and Bears, the purchaser being called a Bull, and the seller a Bear, their Interests being necessarily concerned in opposite states of the market; the one, in the language of the Stock-Exchange, being desirous of tossing up the prices, the other in tearing them down. Thus, suppose a person engages to purchase for the Account, £50,000 Stock, at 70 per cent, if the price should rise so as to be at 73 per cent, on the settling day, he would gain £1500, whether the Stock were delivered to him at the 70 per cent, and he sold it at 73, or he received the difference by selling it to any other party at that rate. *Vice versâ*, the Bear, or seller, would lose this amount by the rise in value, his chance of gaining being dependent upon a fall.

When the Stocks keep rising, and the person continues his speculative purchases, he is said to be a Bull all the way up; or, on the reverse, a Bear all the way down.

Frequently, in these transactions, the seller reserves to himself the right of delivering a greater quantity of Stock than that for which the bargain is fixed, at a trifling difference in favor of the Purchaser, as at 1-8th, or 1-4th under the market price, giving himself an opportunity of making a further gain, if the price should fall still more than that difference.—On the other hand, the Purchaser sometimes stipulates, that he shall have the power of demanding a greater quantity, than the Stock he engages to take, at

a similar trifling increased rate, to make an increased profit if the Stock should rise in value. The one is called a Seller for the Put, and the other, a Purchaser for the Call.

Besides these private Purchases and Sales, there are others upon public account, or for the Commissioners for the Reduction of the National Debt, and for the Lords of the Treasury; the one being purchases of the Perpetual Annuities, and the other, sales of Exchequer Bills.

The present Brokers employed by Government are Messrs. Templeman, Cole and Child, one of whom, generally Mr. Cole, on behalf of the Commissioners, is obliged to attend every Tuesday, Wednesday, Thursday, and Friday, when not holidays, at twelve o'clock, precisely, to be ready to receive any offers, or to make a bidding at a price which he will give; sometimes the business is concluded at once, by a person offering the whole of the required Stock, at the price fixed on the part of the Commissioners. The sale of the Exchequer Bills is conducted in a similar manner, sometimes a particular premium is fixed upon them by the Broker, and at others they are sold for what price can be obtained. This gentleman occupies a particular Box, and his signal for commencing business is the pulling off his hat, which he resumes when his transactions for the day are completed. It is from this Box, that Mr. Hase makes his communications from the Governor of the Bank to the Gentlemen of the Stock Exchange, and that the Secretary to the Committee makes public Purchases and Sales of Stock, to ascertain the differences upon the Accounts of defaulters on the settling days.

Previous to the late appropriation of the principal part of the Sinking Fund, the Commissioners' purchases were upon a scale of great magnitude; for taking the sum to be laid out at fifteen millions of money, and the number of the days of purchase at one hundred and eighty, above eighty-three thousand pounds were laid out daily upon an average.

FOR THE DIFFERENT ANNUITIES PAYABLE AT THE BANK OF ENGLAND.

5 per Cent, Navy 4 per Cent, Consols 3 per Cent, Consols 3 per Cent, Reduced	Tuesday, Wednesday, Thursday and Friday.
5 per Cent, 1797. $3\frac{1}{2}$ per Cent, ...	Tuesday, Thursday, and Friday.

3 per Cent, Imperial..... Monday, Wednesday and Friday.
Long Annuities ..... Monday, Wednesday and Saturday.
5 per Cent, Irish..... Tuesday, Thursday and Saturday.

The Dividends upon the 5 per Cent Navy, and the 3 per Cent Consols, are due JANUARY 5 and JULY 5.

The dividends upon the 5 per Cent, 1797, 4 per Cent, Consols, $3\frac{1}{2}$ per Cent, 3 per Cent, Reduced, and the Long Annuities, are due APRIL 5 and OCTOBER 10.

The dividends upon the 3 per Cent Imperial, are due May 1 and November 1, but they are paid with the other dividends, which are due on January 5 and July 5.

The Life Annuities are payable every quarter, upon the dividend paying days.

The Holidays kept at the Bank, South-Sea-House, and India House are,

Fixed.—Jan. 1, 6, 25, 30—Feb. 2—March 25——May 1, 17, 29—June 4, 11, 24, 29—Aug. 12, 24—Sept. 2, 21, 22, 29—Oct. 18, 25, 26, 28—Nov. 1, 4, 5, 9, 30—Dec. 21, 25, 27, 28.

Moveable.—Ash Wednesday, Good Friday, Easter Monday and Tuesday, Ascension Day, and Whit Monday and Tuesday.

The settling days at the Stock Exchange, of which there are eight in the course of the year, are determined by the Committee for General Purposes.

The settling days for Omnium and Scrip, are two days preceding those upon which the instalments become due.

The Prices of the different Stocks are officially taken at the Stock-Exchange every day of business, at 1 o'clock, when the regular transfers close. Lists of the Prices are also taken for private use, at the opening, as well as at the close of the market; and, by some Brokers, they are taken and publicly exhibited, every half hour.

In these quotations of Prices, those of the Stocks, both of the unlimited Annuities, and of the Bank and East India Companies, are given in Pounds and fractional parts, for each £100 Stock, and generally with the double price for buying and selling, as CONSOLS $71\frac{1}{4}$, $\frac{3}{8}$,—$71\frac{5}{8}$,$\frac{3}{4}$,—72 $72\frac{1}{8}$.

These may be considered as three quotations of prices, at the beginning, middle, and close of the market; each is $\frac{1}{8}$ of a £, or 2*s*. 6*d*. higher in the second price than the first, and intimates that the Jobbers were purchasers at the former, and sellers at the latter price; as buyers at £71 5*s*, and sellers at £71 7*s* 6*d* for each £100 Stock, &c.

In the Long Annuities, so very little business is comparatively done, that there is seldom any more than one or two Prices given; as, BANK LONG ANNUITIES $19\frac{1}{8}$, 1-16th.

which denotes the number of years purchase, that is given for these Annuities; as for an Annuity of £100 to the 5th January, 1860, there would be given £1912 10*s*. at one Price, and £1906 5*s* at the other.

The Premium or Discount upon Exchequer Bills and India Bonds, is expressed in shillings per cent; as,

EXCHEQUER BILLS..... 4 P.
Do. COMMERCIAL 15 Dis.

These imply, that the ordinary Exchequer Bills sold at 4*s* premium for each £100, and the Commercial Bills at 15*s* discount, or a Bill for £100 at £99 5*s*.

The Premium or Discount upon Omnium, is expressed in Pounds per cent; as

OMNIUM .... $4\frac{7}{8}$ Pr.

Which shows that £100 of Omnium, sold at an increased value by £4 2 6.

THE CHARGES

FOR

COMMISSION OR BROKERAGE.

The Charges for Commission or Brokerage are the following:

Upon the STOCKS — $\frac{1}{8}$ or 2*s* 6*d* per Cent upon the quantity bought or sold.

OMNIUM — $\frac{1}{8}$ per Cent upon the amount of the Omnium.

SCRIP — $\frac{1}{8}$ per Cent upon the Stock created by the Scrip Receipt.

Exchequer Bills and India Bonds,—1*s* per Cent.

The Long Annuities,—$\frac{1}{8}$ per Cent upon the amount, or selling Price of the Annuity.

The calculation of the Brokerage upon fractional amounts is thus performed.

Multiply the given sum by 3, and the tens of pounds in the product, will be the required amount in pence. Thus, upon £57 16*s*, the Brokerage is 17 pence; and in this, as in general, it is only necessary to multiply the pounds, and cut off the unit figure of the product.

Very few persons take a less sum than 1*s* for Brokerage, let the amount of the Stock be ever so small; with some it is a practice to charge 1*s* if not above £25—1*s* 6*d* if not above £50, 2*s* if not above £75, and 2*s* 6*d* if not above £100, but this is not very general.

The Brokerage, like all charges, is an addition to the cost, and a subtraction from the selling price.

TO FIND THE COST OR NET PROCEEDS OF A QUANTITY OF STOCK.

Directions—From the given price of £100 Stock, find the value of the given quantity; or, multiply the given quantity of the Stock by the rate of the price, and divide the product by 100. These directions are usually called, multiplying the Price by the Stock, or the Stock by the Price.

Example 1.

To find the cost of £875 Reduced Stock, at $67\frac{3}{4}$ per Cent.

	£	s.		
$\frac{1}{2}$....	67	15		value of £100 Stock
		8		
	542	0		.....£800
$\frac{1}{2}$.....	33	17	6	 50
	16	18	9	 25
£	592	16	3	Cost of the Stock
	1	2	0	Brokerage on £875
£	593	18	3	Whole Cost.

(or)

	£	s		
$\frac{1}{4}$....	67	15		
		9		
	609	15		for 900
	16	18	9	for 25
£	592	16	3	for 875

(or)

	£	
$\frac{1}{2}$....	875	
	67	
	6125	
	5250	
$\frac{1}{2}$....	437	10
	218	15
£	592,81	5
s	16,25	
d	3,00	

The Brokerage is here reckoned £1 2, though by many it would be reckoned 2*d* less.

Example 2.

To find the net proceeds of £637 14 7 Consols at 65⅜ per cent.

£	s	d	
637	14	7	
		8	
5101	16	8	
		8	
40814	13	4	for 64
¼.. 637	14	7	... 1
½.. 159	8	8	... ⅜
79	14	4	.. ⅛
£416,91	10	11	
s 18,30			
d 3,71			&c.

(or)

£	
¼.... 637.729	
65	
3188645	
3826374	
½..... 159432	for ⅜
79716	.. ⅛
£ 416,91533	=
£416 18 4	Selling Price.
15 11	Brokerage.
£416 2 5	Net Proceeds.

— or —

£	s	d	
¼..637	14	7	
⅕..½.. 65			
3185			} for 65
3822			}
½..159	8	8	.... ⅜
79	14	4	.... ⅛
32	10	–	for 10s
⅛.. 13	—	–	.. 4s
⅙.. 1	12	6	. 6d
	5	5	.. 1d
£416,91	10	11	
s 18,30			
d 3,71			&c.

— or —

£	s	d	
½ ..637	14	7	
⅕ ..318	17	3½	for 50
½ .. 63	15	5½	.. 10
1/20.. 31	17	8¾	.. 5
½ .. 1	11	10½	.... ⅜
	15	11¼	.... ⅛
£416	18	4	Selling Price.
	15	11	Brokerage.
£416	2	5	Net Proceeds.

The second is the easiest of any of these methods, but it requires a previous knowledge of Decimals. The third which is rather intricate, is one that is frequently practised. It is thus performed; after multiplying by 65, we take parts for 3-8ths out of the head line, &c, and then for 65 times 14*s* 7*d*, we take parts out of £65, for the 14*s* 7*d* out of a Pound.

Example 3.

To find the cost of £643 18 2 Four per Cent Stock, at 87¾ per cent.

	£	*s*	*d*		
½....	643	18	2		
			87		
	4507	7	2	for	7
	51512	13	4	—	80
½.....	321	19	1	—	½
	160	19	6	—	¼
£	565,02	19	1		
s.	0.59				
d.	7.09				

	£	*s.*	*d.*
Amount of the Stock....	565	0	7
Brokerage		16	1
Whole Cost ..... £	565	16	8

This Example is introduced for the purpose of showing a particular form of multiplication, which is sometimes practised in the calculations of the value of Stock. The only peculiar part is in the multiplication by 80, which is done in this manner; 80 two-pences are 160 *d*, or 13 *s*. 4 *d*; set down the 3 *s*. 4 *d* and carry 1, 8 times 18 are 144, and 1 are 145, the half of which is 72 and 1 over; set down the 1 as 1 ten shillings, and the 2 as 2 pounds, and carry the 7; then say 8 times 3 are 24 and 7 are 31, &c.

It is evident that the principles of this calculation are, that in the shillings, the product is 145 tens of shillings, two of which make a pound, and that in the pounds, the figures are set one place to the left, as in the usual multiplication by a number of tens.

TO FIND THE QUANTITY OF STOCK, THAT CAN BE PURCHASED WITH, OR MUST BE SOLD TO PRODUCE, A GIVEN SUM OF MONEY.

Directions.—To the given price add $\frac{1}{8}$ upon purchasing, or subtract $\frac{1}{8}$ upon selling; then say, if this sum or remainder, produce or require £100, what will the given sum produce or require.

Example 4.

To find the quantity of 5 per Cent Stock at $104\frac{3}{4}$ per Cent, which can be bought with, and must be sold to produce, £800.

For the purchase.

£		£		£	
If $104\frac{7}{8}$	produce	100	what will	800	produce?
839	eighths.			6400	eighths.

839) 640000

Answer..... £ 762 16 3 quantity can be bought.

For the Sale.

£		£		£	
If $104\frac{5}{8}$	require	100	what will	800	require?
837				6400	

837) 640000

Answer..... £ 764 12 8 quantity to be sold.

Practically speaking, the amount of the brokerage is not the only difference arising from buying and selling; for admitting the state of the Stock market to be precisely the same at both periods, the advantage the Jobber always takes of the turn of the market, makes another $\frac{1}{8}$ per cent of loss upon the transaction, or, in all, 3-8ths per cent, upon the quantity of the Stock.

TO FIND THE QUANTITY OF STOCK PRODUCED FROM THE EXCHANGE OF STOCKS AT GIVEN PRICES.

Directions.—Having corrected the prices of the Stocks for the brokerage upon buying and selling, say, as the corrected price of the Stock to be bought is to that of the Stock to be sold, so is the given quantity of Stock to the quantity to be obtained in exchange.

Example 5.

To find what quantity of 5 per Cent Stock, at $104\frac{3}{8}$ per Cent, can be obtained in exchange for £ 600, Three per Cent Stock, at $70\frac{5}{8}$ per Cent; and to find the difference in the annual amount of the Dividends.

Corrected buying price .... $104\frac{1}{2}$
Selling price .... $70\frac{1}{2}$

£	£	£
$104\frac{1}{2}$	$70\frac{1}{2}$	600
209	141	
	600	

209) 84600

Answer .... £	404	15	8	Five per Cent Stock.
	20	4	9	Annual amount of Dividends.
	18	0	0	Do. on £ 600 Three p. ct.
	£ 2	4	9	In favor of the Five per cent.

In the Tables which are published of the comparative values of Stock, the only thing taken into consideration, is, the dividend each bears; but as the 5 per Cent Stock, if paid off, could be done so at par, or at 100 per Cent, the value of this Stock will never rise greatly above it.

The par of the 3 per cent Stock is said to be 60 per Cent, but not correctly, the proper par being the same as the Five per Cent. For if both Stocks were to be paid off, each would possess an equal value.

An attempt was once made to create a 3 per Cent Stock, redeemable at 80 per Cent, but the contractors would not purchase it.

TO CALCULATE THE AMOUNTS OF THE HALF-YEARLY DIVIDENDS.

Remarks—The amount of the dividend is never paid lower than 1 d. The Rules for the mental Calculation of $2\frac{1}{2}$ per Cent, * are to be found in Part 1, Pages 337 and 338, (Calculations of Commerce and Finance).

Example 6.

To find the amount of the half-yearly dividends upon £620 Stock, and upon £843 11 7 Stock, at the different rates of $1\frac{1}{2}$, $1\frac{3}{4}$, 2, and $2\frac{1}{2}$ per Cent.

For £620 Stock.

£	s	d	£	s	d	£	s	d	£	s	d
1	10	0	1	15	0	2	0	0	2	10	0
		6			6			6			6
9	0	0	10	10	0	12	0	0	15	0	0
	6	0		7	0		8	0		10	0
£9	6	0	£10	17	0	£12	8	0	£15	10	0

For £843 11 7 Stock.

£	s	d	£	s	d	£	s	d
843	11	7	843	11	7	843	11	7
421	15	9.5	5905	1	1	£16,87	3	2
£12,65	7	4.5	£14,76	5	3.25	s 17,43		
s 13,07			s 15,25			d 5,18		
d 0,885			d 3,0325					

For $1\frac{1}{2}$	per Cent ..	£	12	13	0 . 885	–1000ths
$1\frac{3}{4}$	per Cent ..	£	14	15	3 . 0325	–10000ths
2	per Cent ..	£	16	17	5 . 18	–100ths
* $2\frac{1}{2}$	per Cent ..	£	21	1	9 . 475	–1000ths
Proof $7\frac{3}{4}$	per Cent ..	£	65	7	6 . 5725	–10000ths

N. B. The decimal Parts are used only in the Calculations at the Bank. For $1\frac{3}{4}$ multiply by 7 and divide the product by 4.

TO FIND THE NET PRICE OF STOCK, AT ANY PERIOD BETWEEN THE DAYS WHEN THE DIVIDENDS BECOME DUE.

Directions.—Find the days from the last to the following day of payment, and from the last to the given day, then find the proportionate amount of the dividend, which subtracted from the given price, will produce the net price required.

N. B. The amount to be deducted may otherwise be found, by subtracting from the amount of the half yearly dividend, the Discount upon it for the time to elapse before it becomes due, calculating the Discount as the Interest upon the remainder, but this is much too great a nicety for any practical purpose.

Example 7.

To find the net price of Reduced Stock, sold on the 11 th of August, at $71\frac{3}{8}$ per Cent.

From April 5 to Oct. 10 is 188 days.
to Aug. 11 .. 128 days.

	days		£	s		days	
If	188	produce	1	10	what will	128	produce?

Answer *s* 20 5*d*

	£	s	d
Given Price	71	7	6
Dividend for 128 days	1	0	5
Net Price	70	7	1

In the quotations of prices of the Reduced and Consols, there is usually a difference of $\frac{3}{4}$ per cent for the quarter of a year's Interest, which is due upon one Stock more than upon the other; with, in general, $\frac{1}{8}$ per cent in favor of the Consols, as being a rather more marketable Stock.

As in August....Consols $71\frac{3}{8}$ Reduced 72
November Consols $68\frac{7}{8}$ Reduced 68

To find the per centage produce of money invested in the funds, we should use the net price, and, as with the above, say

	£	s	d		£		£	
If	70	7	1	produce	3	what will	100	produce?

Answer £4 5 3 the per centage produce.

THE IRISH TRANSFERS.

When purchases are made of Stock in this country, for the purpose of transferring it to the Irish Funds, and selling it at Dublin; and then for the proceeds to furnish the means of paying for Bills either drawn from this country, or bought in Ireland, the particulars to be taken into consideration, for the performance of the calculations of the probable Gain or Loss, are,

1st. The Prices of Stocks in this country, and at Dublin.

2d. The Courses of Exchange at Dublin, and at London.

3d. The incidental Expenses attending the transaction.

And when these particulars are obtained, the probability of the Rates remaining the same as the quotations, until the transaction can be wound up, must form a very important consideration, in determining whether or not it would be prudent to make the speculation.

It seems hardly necessary to observe, that Accounts are kept in Ireland, in Pounds, Shillings, and Pence, of the same relative values as Sterling, but that from the inferior worth of the Irish coinage, Sterling money bears a premium against Irish, which is called the rate of Exchange.

What is termed the par of the Irish Exchanges is $8\frac{1}{3}$ per cent, one shilling English being legally worth 13*d* Irish, or £100 Sterling, £108 6*s* 8*d* Irish. This rate is frequently varying in the value given for Bills of Exchange, according to their abundance or scarcity; and, with regard to the purchase of these Bills in Dublin, the lower the rate is, the more favorable it is for the person to receive their value in London, and the same is the case, when the person in London draws upon his correspondent, in place of his making a remittance.

To sum up all the calculable advantages in favor of an adventure of this nature, they are,

1st. A low rate of purchase in this Country.

2d. A high rate of sale at Dublin.

3d. A low rate of exchange at Dublin, giving the advantage in remitting; or,

4th. A low rate of exchange in London, giving an advantage in drawing; to which must necessarily be added a low rate of charges, particularly at Dublin.

The two Irish Stocks into which permission has been given to make transfers, are the Three and a half and the Five per Cents, according to scales of equivalent value for £100 of English Stocks, as given in page 331 of this Work.

With the rates of Exchange and the Prices of the Stocks, the calculations are performed in the following manner.

Example.

From the following quotations of prices, to find the arbitrated values or returns for £100 Sterling, laid out in this country, in the purchase of Stock to be transferred to the Irish Funds, and being sold in Dublin, the proceeds to be remitted to this country; the charges being estimated at 1 per cent.

PRICES AT LONDON.

5 per Cent..... 101¼
4 per Cent..... 86½
3½ per Cent..... 75¾
Consols 67
Exchange on DUBLIN 11¼ per Cent.

PRICES AT DUBLIN.

5 per Cent..... 104½ with Interest.
3½ per Cent..... 81¼ .. do.
Exchange on LONDON. 10 per Cent.

For the 5 per Cent in each Stock we say,

What will..... £100 Sterling produce?
If £101¼ Sterling produce.... £100 English Stock.
If £100 English Stock produce £108⅓ Irish Stock. (See p.
If £100 Irish Stock produce... £104½ Irish Money. [331.
and If £110 Irish money produce.. £100 Sterling.

This statement is made at length to show the different steps in the process, but 2 of the £100 on each side of the equation, may be struck out of the calculation.

Thus for the 5 per Cent.

$\frac{1}{4}$....110	$104\frac{1}{2}$		
$101\frac{1}{4}$	100		
110	$\frac{3}{12}$....1045000	for	100
$11027\frac{1}{2}$	87083	for	$8\frac{1}{3}$
$11137\frac{1}{2}$ ...) ...	1132083		

Produce per Cent..	£	101	12 10
Less Cost and Charges		101	0 0
Net....	£	0	12 10

From this it appears, that very little advantage would attend this investment in the 5 per Cent Stock, the surplus being scarcely more than 5-8 ths per Cent.

It is to be remarked of these calculations, that—1st, with regard to the prices at Dublin, they are expressed differently from the prices in this country, the Interest upon the Stock since the payment of the last dividend, not being generally included in the quotations, or the rates at which the Stocks are sold, but it is added in here to avoid burthening the calculation.

2ndly, The prices at London being corrected for the rate of Exchange at Dublin, and the price at Dublin being corrected for the Exchange at Par, by the addition of 1-12th, and being also multiplied by 100, the number of the former product is the divisor, and the number of the latter the dividend, for a division whose quotient is the arbitrated value of £100, when the Stocks exchanged, bear the same rate, as both being 5 or $3\frac{1}{2}$ per cent; otherwise, a further correction upon the Irish price is wanted.

From the 4 per Cent English to the 5 per Cent Irish.

	$\frac{1}{12}$ ... 10450 = $104\frac{1}{2}$ × 100	
$\frac{1}{10}$ .. 86.5	870.83	
8.65	$\frac{1}{5}$ 11320.83	for 5 per cent.
95.15	2264.16 .. 1	
	9056.67 .. 4	

After correcting the English price for the 10 per Cent, and the Irish price for the $8\frac{1}{3}$ per Cent, and deducting $\frac{1}{5}$ to reduce the 5 per Cent to 4 per Cent, it is immediately seen, that the higher figures of the second number being less than those of the first, the quotient will be less than £100; and therefore as the object is to ascertain whether any advantage would be the result, it is immediately seen that there would not be any.

From the $3\frac{1}{2}$ per Cent English to the $3\frac{1}{2}$ per Cent Irish.

$\frac{1}{10}$ 75.75	$\frac{1}{12}$ 8125,
7.575	677,083
83.325	83325) 8802083
	Cost and Charges....105 12 8
	£ 101 0 0
	Profit per Cent. ..£ 4 12 8

From the 3 per Cent English to the $3\frac{1}{2}$ per Cent Irish.

$\frac{1}{10}$ 67	$\frac{1}{7}$....8802.08 as above.
6.7	1257.44 for $\frac{1}{2}$
73.7	73.7) 7544.64 for 3
	£ 102 7 4
	Profit per Cent....£ 1 7 4

The first of these two calculations requires no other corrections in the rates, than for the courses of Exchange, but the dividend of the second requires a deduction of its 1-7th, to reduce the $3\frac{1}{2}$ to 3 per Cent.

It appears from these Prices, that the exchange from the $3\frac{1}{2}$ per Cent English to the $3\frac{1}{2}$ per Cent Irish, affords the greatest profit; and in the practice of these speculations, this has almost uniformly proved to be the case. The $3\frac{1}{2}$ per Cent English being a newly created Stock, less of it has comparatively been made the subject of adventure, and from not experiencing a very ready sale, its price has usually been below what is considered its true value.

In the preceding quotations the prices are to be regarded as merely nominal, for the purpose of showing different effects from different combinations; at the present rates and courses of exchange, these transfers would be attended with loss rather than with advantage; for taking the Dublin rate of the $3\frac{1}{2}$ per Cent, to be $83\frac{1}{2}$, and the interest upon it to be $1\frac{1}{4}$ per cent, the amount is $84\frac{3}{4}$, which corrected for the par of Exchange by adding its 1-12th, the amount is very nearly $91\frac{3}{4}$, while taking the rate of the $3\frac{1}{2}$ per Cent English to be 82, and the Exchange 12 per Cent, the corrected amount is 91 and 8-10ths, or a little more than the former amount.

LIMITED ANNUITIES.

The values of these Annuities are easily determined, by multiplying the yearly Annuities, by the number of years purchase for which they are sold, the brokerage being reckoned upon these amounts. In finding what yearly Annuity can be purchased with a given sum, the Brokerage may be found upon the sum to be laid out, and being deducted, the amount of the yearly Annuity may be found from the remainder.

Example.

To find the yearly Annuity at $19\frac{1}{8}$ years purchase, which can purchased with £1000.

		£	s	d	
		1000			
		1	5		estimated Brokerage.
		£998	15		
years		£	s		year
If $19\frac{1}{8}$	produce	998	15		what will 1 produce?
153			8		8
	153)	7990	0		
	Answer £	52	4	5	yearly Annuity.

		£	s.	d.	
(Proof)	$\frac{1}{8}$ ..	52	4	5	
				19	
		992	3	11	
		6	10	7	
		998	14	6	Cost of the Annuity.
		1	5	0	Brokerage.
	£	999	19	6	

Of the first part it is to be observed, that unless the sum were very large, there would seldom be any difference between the amount of the Brokerage, when calculated upon the whole amount and when upon only the cost of the Annuity; in the above it is reckoned at 2*s* 6*d* per cent upon £1000.

The rate of the Annuity which was used in the preceding calculation, is one at which the Long Annuities sold in the beginning of the present month of August, 1819, and as these are receivable for 99 years, from Jan. 1761, or for 80 years from Jan. 1780, or until the beginning of Jan. 1860, there is above 40 years remaining before they will expire; and upon referring to Table 4, page 15, and making proportionate allowances, we find $19\frac{1}{8}$ for $40\frac{1}{2}$ years, allows nearly $4\frac{1}{4}$ per Cent for the Interest of money thus laid out.

The present value of Limited or Terminable Annuities, receivable after the termination of a certain period, may be found from the directions in page 270.

The amount of a Life Annuity which may be obtained in exchange for a Limited Annuity, at different rates per Cent, may be found from the method of working the Example in page 279; but it is very rarely that any exchange of this nature is made in any other way than for a Government Life Annuity, because in addition to the very best of security, a higher rate of Interest is obtained.

The present value of a reversionary Limited Annuity, or one which is receivable after the death of a person nominated, is calculated as the Example in page 280, fixing the rate of Interest, at the estimated value of money.

At the rates at which these Life Annuities are now saleable, they are worth more than any Life Annuity, except for a few young ages at a low rate per Cent. See page 276.

EXCHEQUER BILLS.

TO CALCULATE THE VALUE OF EXCHEQUER BILLS.

Remarks—The Interest upon Exchequer Bills is calculated from the days they are dated, to those on which they are sold.

Example.

To find the net proceeds of an Exchequer Bill for £1000 dated August 27, 1818, bearing Interest at 2 *d* per Cent per Diem, and sold upon August 8, 1819, at a premium of 6s per Cent.

From August 27, 1818, to August 8, 1819 is 346 Days.

£			
* 346			
10			
$\frac{1}{120}$....3460			
28	16	8	Interest for 346 Days
1000	0	0	Bill
3	0	0	Premium
1031	16	8	Value of the Bill.
	10	0	Brokerage.
£1031	6	8	Net Proceeds.

* This £346 is the assumed amount of the Interest on £100 for 346 Days, at £1 per Cent, per Day.—This multiplied by 10, produces the Interest for £1000, and the product divided by 120, produces the amount at 2d per Day.

INDIA BONDS.

TO CALCULATE THE VALUE OF AN INDIA BOND.

Remarks—The Interest on India Bonds is due upon the 31st March, and the 30th September, and is reckoned in months and days, at present, at 4 per Cent per Annum.

Example.

To find the cost of 2 India Bonds of £500 each, sold on 16th August, at a Premium of 4s per Cent.

From March 31 to August 16 is 4 months 16 days.

Interest on £1000 for 1 year	£ 40		
4 months	13	6	8

£

* 1000 for 16 days
16

16000
8

$\frac{1}{3}$ 128000
$\frac{1}{10}$ 42666
$\frac{1}{10}$ 4266
426

£1.753 ....producing ... 1 15 1

	15	1	9
Amount of the Bonds	1000	0	0
Premium 4 *s* per Cent	2	0	0
	1017	1	9
Brokerage 1 *s* per Cent		10	0
Whole Cost £	1017	11	9

* See Pages 380 and 384, Part 1, (Calculations of Commerce and Finance).

OMNIUM.

TO FIND THE COST OR NET PROCEEDS OF OMNIUM.

Directions.—To the amount of the instalments paid, add or subtract the Premium or Discount, with the Brokerage at $\frac{1}{8}$ per Cent.

Example.

To find the cost of £10.000 Omnium, upon which 2 instalments of 10 per Cent each, have been paid, at a premium of $4\frac{1}{8}$ per Cent.

£		
20		Payment per Cent.
100		
2000		Amount paid.
412	10	Premium.
12	10	Brokerage.
£2425	0	Whole Cost.

The Omnium Sheets are not usually made out for any other sums than £500, £1000, £2000, or £5000, except in the funding of Exchequer Bills, when the amounts are as low as £100.

The discount upon either Omnium or Scrip, is the interest upon the amount of the remaining payments, for the time to elapse between the days of payment in full and the day when the last instalment becomes due. The calculation for this Omnium would be upon £8000, and for the following Scrip upon £704.

TO FIND THE COST OR NET PROCEEDS OF SCRIP.

Directions.—From the amount of the Stock belonging to the Scrip Receipt at the given selling price, subtract the amount of the instalments remaining unpaid, and the remainder will be the value of the Scrip, to or from which add or subtract the amount of the brokerage.

This is the usual mode in which Scrip Receipts are separately sold, the discount which is allowed upon immediate payments, being taken into consideration in the rate of the price.

Example.

To find the net proceeds of the Reduced Scrip belonging to a portion of £ 2000 Omnium, of the Loan for the present year, sold at 73½ per Cent, when 80 per Cent remains unpaid. (See p. 335).

£ 1258 13 4 at £ 73 10*s* per Cent.

73½

3774
8806 (See Page 381.)
629 — for ½
36 15 — 10*s*
12 5 — 3*s* 4*d*

£ 925.12	0	producing.....	£	925	2 4
8 Instalments £ 88 each				704	0 0
Value of the Scrip.....			£	221	2 4
Brokerage on £ 1258				1	11 4
		Net proceeds.....	£	219	11 0

The value of Scrip is generally found from Tables published by Mr. Wade, the Secretary of the Stock Exchange, with which the above calculation will be found to agree. The £ 704, marked in these Tables, R. P., is the amount of the remaining payments.

MARINE INSURANCES.

Marine Insurances are Contracts to indemnify the Owners of Goods and Vessels, and the Proprietors of Freight, from any stipulated loss they might receive, from the damage or destruction of the Ships and Cargoes.

The principles upon which the practice of Marine Insurances are founded, would necessarily present the adoption of this method of guarantee or indemnification, until Commerce had arrived at an extent of considerable magnitude.—While single Ships, timidly coasting from shore to shore, conveyed the few articles of merchandise which were not, or could not be entrusted to Caravans, and while ignorance of the art of navigation rendered every voyage an adventure of extreme peril, the risks were too considerable, and also too seldom occurring to admit of that average of safety and liability to injury, which is the foundation of Marine Insurances.—To explain this further, it is necessary to observe that, the person possessing the property insured, sacrifices a portion of it in the premium he gives the Insurer, to guard against the possibility of his losing the whole; and that the mode in which this premium is estimated, is founded upon the chance of a loss taking place, as ascertained by previous observation.—Hence, as these chances are continually varying, the observations, as well as the transactions, must be numerous, to admit of the Insurances being productive of mutual advantage.

Even in England, with its extensive Commerce, it is considerably less than a century since the practice was either general or well understood; the decisions of Lord Mansfield first gave it stability, and those of Sir William Scott and the late Lord Ellenborough, with the present establishment of Lloyd's Coffee-House, have nearly completed a system more diversified in its arrangements, and more elucidated by legal exposition, than perhaps exists in any other branch of human affairs.

The legal instrument containing the terms of the Contract, is called a Policy; and the consideration for undertaking the risque, is called the Premium of Insurance.

The Parties to these Contracts are the Assured or Insured, and the Insurer, either directly or through the medium of their acknowledged Agents, and also with the independent management of an Insurance Broker.

The principal of the mutual relations of these Parties, and the statutary enactions to render their engagements binding, are comprised under the following heads.

OF THE ASSURED.

Any Person interested in the safe arrival of Goods or Vessels, is legally capable of causing an Insurance to be effected. Therefore, it is not only the Owner of the property who possesses this power, but any person who is to receive the production of the sales upon its arrival, an Agent who is to receive Commission upon the Sales, and any person risquing the loan of a sum of money upon its safety, may each insure his separate Interest; but in all these cases, the nature of the Interest mustbe specified in the body of the Policy. The Insurance Broker, even when not Consignor or Consignee, may be the ostensible party insured, in the described capacity of Agent, which is also sometimes done by persons acting upon commission, in order to enable either them or the actual proprietors, to establish a legal claim against the Insurers.

An alien enemy cannot make an Insurance, either by himself or by any agent.

OF THE INSURERS.

Every person capable of entering into any legal contract, individually may become a subscriber to a Policy of Insurance, provided the Assured is content with his security.

With the exception of the Royal Exchange and London Insurance Companies, no persons in partnership can subscribe a Policy, under the penalty of forfeiting £ 500; and rendering the subscription of no effect.

The privilege of risquing a joint Capital in Marine Insurances, was granted to these Companies in the year 1720, upon the condition of their paying the sum of £ 300,000, each, to assist in discharging the debts of the Civil List. But of these sums, only £ 111,250 were advanced by each Company, the rest being remitted by an act of Parliament in the following session.

A few years ago, an attempt was made to establish a Marine Insurance Company, with a very large Capital, under the pretext of giving greater security and facility to these transactions, but the legislature refused to sanction the measure.

When a person in partnership subscribes a Policy, he is understood to do it upon his separate security; but as in many instances where the Insurances, though conducted ostensibly in one person's name, are done for the benefit of the firm, in the event of any considerable loss, the property of all the partners is, as a point of honor, brought forward to meet it.

It is also a very common practice, at the present time, for an authorised Clerk or Agent to subscribe Policies with the separate names of each partner, which consequently becomes virtually binding upon the whole, in the amount of the sums subscribed; still, however, no mention of any partnership between them must be made in the Policy, and in the event of a bankruptcy, the debts can be proved only against the separate Estates.

The Subscribers to a Policy are generally called Underwriters, which is merely a translation of the Latin compound, from which the word Subscribers is derived.

OF INSURANCE BROKERS.

The capacity in which an Insurance Broker acts, is rather that of an Agent for the person effecting the Insurance, than as a Broker without responsibility for the performance of the contract to which he serves as a witness, or as a Broker employed in the purchase and sale of Goods.

Thus, though the consideration or premium to be paid to the Underwriter, is expressed in the Policy to be received by him when he subscribes his name, yet it is but very rarely that it is so received, and it is from the Broker, when he is employed, that the Underwriter has to obtain his remuneration. On the other hand, the Broker, though responsible to the Insurers for the premium, is not responsible to the Assured for the payment of his claim in case of loss, unless he makes himself so by charging what is termed a del-Credere Commission, in which case the Insured has a double security.

Between Brokers and their employers, the premiums are commonly matters of account, but a Broker may refuse to deliver up a Policy until he is paid the amount of the premium, and he may keep any Policies he may have in his possession, until he is paid the balance of his account, unless his employer is described in any Policies so withheld to be an Agent, when the Broker has a lien or claim upon them, only for the premiums on those particular Policies.

This retention of the Policies is however very rarely practised; no Broker of respectability would do business for any person to whom he would not give credit for the premium; nor would any merchant again employ a Broker who should thus refuse to send him the Policies; the necessary confidence in business renders useless most of these abstract questions of mere right.—The advantage of possessing the Policy is, that coupled with other necessary papers, it completes the proof of the liability

of the Underwriters, and therefore, in the event of a loss, it is absolutely necessary for the claimant to be able to bring it forward.

The business of Insurance Brokers, is one of great responsibility, and, in the language of Mr. Serjeant Marshall, they ought to be, as indeed they generally are, persons of great respectability and honor, in whom unlimited confidence may be safely reposed. To the Broker, the Merchant looks for the regularity of the contract, and a proper selection of substantial Underwriters. To him also the Underwriters look for a fair and candid disclosure of all material circumstances affecting the risk, and for the payment of their premiums.

No Broker should be an Underwriter, at least to any Policy which he effects; for by becoming an interested party, his testimony, in explanation of any representation to the other Insurers, could not be produced until either he had paid the loss, or he was released from his engagement.

It is customary with some large Houses, to employ one of their Clerks in effecting their own Insurances at Lloyd's; but, in the examination of the principal Gentlemen connected with this establishment, before a Committee of the House of Commons, it was given as their general opinion, that from the superior terms upon which regular Brokers could effect Insurances, and from the better names which those of much practice could procure to the Policies, it was very questionable whether the adoption of this plan, was attended with any real advantages.

OF THE POLICY.

Policies are generally distinguished as being either VALUED or OPEN, of which the difference exists, in the value of the things insured being expressed in the one case, and not in the other; for which see the forms in the conclusion of this department.

Of the requisites to a Policy, the principal are,

1st.—The name of the Assured, or of the Agent or Broker acting in his behalf.

2nd.—The name of the Vessel and Master; but this, with Goods, is not considered as particularly requisite, as the Insurance is frequently made in the form *per Ship or Ships;* but in this case, in order to render the Insurance less liable to dispute, it is general for the Assured or his Agent to apprise the Underwriters of the name of the Vessel, and of the Goods she has on board which are comprehended in the Policy, as soon as he receives the intelligence.

3rd.—The Interest insured—As whether the Ship, her Cargo, or the Freight to be paid for it, or upon money lent and to be repaid upon the safe arrival of the Ship, called a Bottomry Loan, or of the Cargo, called a Loan in Respondentia.

4th.—The description of the voyage—Of which the general particulars are, where from, to what place, and with what liberty to make deviation. An Insurance upon a voyage is sometimes made to include all risks, both out and home; and sometimes, instead of any particular place being mentioned, or only one particular voyage being contemplated, the Insurance is made for a specified time, but then it cannot legally exceed twelve months.

5th.—The perils against which the Insurance is made.—These are generally such as are included in the printed description of this part of the Policy, but many variations are occasionally made according to the circumstances of the case, the written clauses always controling the printed ones, in cases where they apparently contradict each other. One of the most particular clauses introduced into the general risks, is that of the Ship, &c. being

declared to be at the risk of the Underwriter whether "lost or not lost" at the time of effecting the Insurance; but it is determined that whatever may be the form of wording this description of the perils, if the Assured knows of any loss or particular peril at the time of making the Insurance, and does not disclose it to the Underwriter, it vitiates the Policy, and the Insurance is of no effect.

6th.—The declaration of right in the party Assured, to use any proper means in his or the Captain's power, for the defence, safeguard, and recovery of the Goods or Vessel, without injuring the contract of Insurance; the expenses attending which the insurers guarantee in the proportion of their Subscriptions. The object of this clause is to prevent any forfeiture of their right to abandon the thing insured, when it has received any material injury; or that their continuing in possession, and exercising any right of ownership, after the accident, should diminish their power of surrendering it to the Underwriters as a total loss.

After this clause follows a declaration of the equal validity of the Policy in question, with any Policy of Assurance heretofore made in Lombard Street, or the Royal Exchange, or elsewhere in London. In explanation of which it is usually stated, that the Lombards first introduced Insurances into this Country, that their principal places of business was in the street called after their name; and that Insurances were effected, as well as all controversies respecting them settled, in an office at the West End of the Royal Exchange, under the direction of certain Commissioners who were either appointed by the Lord Mayor or were annually chosen.

7th.—The seventh requisite is an acknowledgment of the receipt of the premium, or consideration for which the risk is undertaken; which, though usually contrary to the fact, is deemed to be legally necessary, to prevent the Underwriter from refusing to pay a loss, on the ground of not having received the premium. Of this some further notice will be taken in describing the practices of Lloyd's Coffee House, and it is to be observed that the Underwriter is not precluded from recovering the amount as a common Debt, as this acknowledgment is not conclusive evidence of the actual payment; it operates against

the Underwriter only so far as to prevent his making the before stated defence.

8th.—The Memorandum,—limiting the effects of partial losses, or preventing the Insurers from being called upon to make good any damage, unless under particular circumstances, and amounting at least to certain per Centages. These Memorandums vary in their obligation, both with private Insurers and the Royal Exchange and London Assurance Companies, as well as in Policies of mutual Insurance.—They are also frequently altered by specific agreement.

9th.—The subscription of the Underwriter's name to the Policy, with the date of the transaction, and the amount of his risque.

In the first of the following forms of Policies, supposed to be effected by a Person described as an Agent, particular liberty of trading, touching, &c. is given to the Vessel. The Goods are described at the foot of the Policy, each Package being valued and declared to be separately insured, to enable the owner to recover the amount of any damage, which though not sufficient to make an average loss upon the whole great enough to take it out of the exceptions in the memorandum, may yet be sufficient for the particular Package.

In the second Policy, there is a warranty of sailing before a given day, with liberty to proceed to the usual place of rendezvous for convoy.—The Property is not limited to be shipped by any particular Vessel.

The Interest in the second Policy, is not completely valued; of any Sugar or Rum, the rate of value is determined, but for any other Property the amount is to be declared hereafter, that is, during the continuance of the risk, or else it is to be ascertained from the cost and charges, or, as it is stated, "as Interest shall appear."

The clause for paying average upon separate Parcels, is frequently objected to by Underwriters, as is also that which stipulates for the whole of the Premium being returned, without the usual allowance of one-half per Cent; the one clause increases the risk, and the other allows no compensation for the trouble.

The signatures of the Underwriters are not given to this Policy, in the first, the same Insurance Clerk signs for the first two names.

In the Name of God. Amen. *John Bell, Agent,* as well in *his* own name, as for and in the name and names of all and every other person or persons to whom the same doth, may, or shall appertain, in part or in all, doth make Assurance and cause *himself* and them and every of them to be insured, lost or not lost, at and from

Liverpool to Montreal,

including the risk of craft and lighters from shore to shore.

Upon any kind of Goods and Merchandizes, and also upon the Body, Tackle, Apparel, Ordnance, Munition, Artillery, Boat, and other Furniture, of and in the good Ship or Vessel, called the ARETHUSA.

whereof is Master, under God, for this present Voyage, *John Pryce,* or whosoever else shall go for Master in the said Ship, or by whatsoever other Name or Names the same Ship, or the Master thereof, is or shall be named or called; beginning the adventure upon the said Goods and Merchandizes, from the loading thereof a-board the said ship at *Liverpool,*

upon the said Ship, &c.

and so shall continue and endure, during her abode there, upon the said Ship, &c. and further, until the said Ship, with all her Ordnance, Tackle, Apparel, &c. and Goods and Merchandizes whatsoever shall be arrived at *Montreal*

upon the said Ship, &c. until she hath moored at Anchor twenty-four Hours in good Safety; and upon the Goods and Merchandizes, until the same be there discharged and safely landed. And it shall be lawful for the said Ship, &c in this Voyage to proceed and sail to and touch and stay at any Ports or Places whatsoever, *and wheresoever, and to land, exchange, and take on board Goods or Passengers at any place or places she may touch at without being deemed a deviation, and* without prejudice to this Insurance. The said Ship, &c. Goods and Merchandizes, &c. for so much as concerns the assured, by agreement between the assured and assurers in this Policy, are and shall be valued at..... Touching the adventures and perils which we the Assurers are contented to bear, and do take upon us in this Voyage; they are of the Seas, Men of War, Fire, Enemies, Pirates, Rovers, Thieves, Jettisons, Letters of Mart and Countermart, Surprisals, Takings at Sea, Arrests, Restraints, and Detainments of all Kings, Princes, and People of what Nation, Condition, or Quality soever; Barratry of the Master and Mariners, and of all other Perils, Losses, and Misfortunes, that have or shall come to the Hurt, Detriment, or Damage of the said Goods and Merchandizes, and Ship, &c. or any Part thereof. And in case of any Loss or Misfortune, it shall be lawful to the assured, their factors, servants, and assigns, to sue, labour, and travel for, in and about the Defence, Safeguard, and Recovery of the said Goods and Merchandizes, and Ship, &c. or any part thereof, without prejudice to this Insurance; to the Charges whereof we the assurers will contribute each one according to the Rate and Quantity of his Sum herein assured. And it is agreed by us the Insurers, that this Writing or Policy of assurance shall be of as much force and effect as the surest writing or Policy of assurance heretofore made in Lombard-Street, or in the Royal-Exchange, or elsewhere in London. And so we the assurers are contented, and do hereby promise and bind ourselves, each one for his own part, our Heirs, Executors, and Goods to the assured, their executors, administrators, and assigns, for the true performance of the premises, confessing ourselves paid the consideration due unto us for this assurance by the assured.—At and after the Rate of

Forty Shillings per Cent.

In Witness *whereof, we the Assurers have subscribed our Names and Sums assured in* London.

N. B. Corn, Fish, Salt, Fruit, Flour, and Seed, are warranted free from average, unless general or the Ship be stranded.—Sugar, Tobacco, Hemp, Flax, Hides, and Skins, are warranted free from average under five Pounds per Cent. and all other Goods, also the Ship and Freight are warranted free of average under three Pounds per Cent, unless general or the Ship be stranded.

On 9 Bales, Woollen Goods, marked XL *No. 33 to* 41, *valued at Six Hundred and fourteen Pounds. To pay average separately on each Bale.*

No. 33	valued at	£ 64	3	2	No. 38	valued at	£ 66	7	0
34	.....do.....	69	8	4	39	.....do.....	66	15	9
35	.....do.....	65	15	3	40	.....do.....	69	16	3
36	.....do.....	68	2	6	41	.....do.....	77	9	0
37	.....do.....	66	3	9					

£ 214 *G. Robson per W. Travers Two Hundred and fourteen pounds, Pm. recd.* 17 *June,* 1819.
£ 200 *J. Robson per W. Travers Two Hundred pounds..... premium recd.* 17 *June,* 1819.
£ 200 *W. Pritchard ——— Two Hundred pounds..... premium recd* 17 *June,* 1819.

In the Name of God: Amen. *John Bell as Agent*, as well in *his* own Name, as for and in the Name and Names of all and every other person or persons to whom the same doth, may, or shall appertain, in part or in all, doth make assurance and cause *himself* and them and every of them to be insured, lost or not lost, at and from *Her port or ports of Loading in Jamaica to London Warranted to sail on or before the 1st day of August*, 1814, *with leave to call at all or any of the West India Islands and Colonies.*

Upon any Kind of Goods and Merchandizes, and also upon the Body, Tackle, Apparel, Ordnance, Munition, Artillery, Boat, and other Furniture, of and in the good Ship or Vessel, called the CRISIS

whereof is Master, under God, for this present Voyage, *John Barker*,
or whosoever else shall go for Master in the said Ship, or by whatsoever other Name or Names the same Ship, or the Master thereof, is or shall be named or called; beginning the adventure upon the said Goods and Merchandizes, from the loading thereof a-board the said Ship as above
upon the said Ship, &c.

and so shall continue and endure, during her abode there, upon the said ship, &c. And further, until the said ship, with all her Ordnance, Tackle, Apparel, &c. and Goods and Merchandizes whatsoever shall be arrived at *and in the West India Docks*

upon the said Ship, &c. until she hath moored at anchor twenty-four hours in good Safety; and upon the Goods and Merchandizes, until the same be there discharged and safely landed. And it shall be lawful for the said Ship, &c. in this Voyage to proceed and sail to and touch and stay at any Ports or Places whatsoever

without Prejudice to this Insurance. The said Ship, &c. Goods and Merchandizes, &c. for so much as concerns the assured, by agreement between the assured and assurers in this Policy, are and shall be valued at *upon Goods as Interest shall appear, or be hereafter valued and declared, valuing Sugar at £30 per Hhd. and Rum at £20 per puncheon, to pay Average on every Ten Hhds. of Sugar following No's as if separately insured.*

Touching the adventures and perils which we the assurers are contented to bear, and do take upon us in this Voyage; they are of the Seas, Men of War, Fire, Enemies, Pirates, Rovers, Thieves, Jettisons, Letters of Mart and Countermart, Surprisals, Takings at Sea, arrests, Restraints, and Detainments of all Kings, princes, and people of what Nation, Condition, or Quality soever; Barratry of the Master and Mariners, and of all other perils, Losses, and Misfortunes, that have or shall come to the Hurt, Detriment, or Damage of the said Goods and Merchandizes, and Ship, &c. or any part thereof. And in case of any Loss or Misfortune, it shall be lawful to the assured, their Factors, Servants, and assigns, to sue, labour, and travel for, in and about the Defence, safeguard, and Recovery of the said Goods and Merchandizes, and ship, &c. or any part thereof, without prejudice to this Insurance; to the Charges whereof we the assurers will contribute each one according to the Rate and Quantity of his Sum herein assured. And it is agreed by us the Insurers, that this Writing or Policy of assurance shall be of as much Force and Effect as the surest Writing or policy of assurance heretofore made in Lombard-street, or in the Royal-Exchange, or elsewhere in London. And so we the assurers are contented, and do hereby promise and bind ourselves, each one for his own part, our Heirs, Executors, and Goods to the assured, their executors, administrators, and assigns, for the true performance of the premises, confessing ourselves paid the Consideration due unto us for this assurance by the assured.—At and after the Rate of *Eight Guineas per Cent. to return Four pounds per Cent, if sail with Convoy from the place of Rendezvous and arrive. To return the whole premium for short Interest, or should the risk not commence.*

In Witness *whereof, we the Assurers have subscribed our Names and Sums assured in* London.

N. B. Corn, Fish, Salt, Fruit, Flour, and Seed, are warranted free from average, unless general or the ship be stranded.—Sugar, Tobacco, Hemp, Flax, Hides, and skins, are warranted free from average, under five pounds *per Cent.* and all other Goods, also the Ship and Freight are warranted free of average under three pounds *per Cent*, unless general, or the Ship be stranded.

OF PREMIUMS AND RETURNS.

Premiums, or the considerations for the risks undertaken, are sometimes distinguished by the terms of Long and Short.

A Long Premium is that of which a part is to be returned, upon the safe arrival of the Ship or Goods, according to the conditions of the Policy.

A Short Premium is that of which no part is to be returned for safe arrival, &c., but these distinctions are now only made in time of war.

In the calculations of the Premiums, the amount which the Insurer receives from the Broker, is called the Underwriter's Premium.

The returns of Premium usually arise, either from there being no risk upon a part or the whole of the sum insured, or from the compliance with some condition named in the Policy.

Upon the first account, when no risk has been incurred upon the whole of the Property or Interest insured, the Return is said to be upon the Cancelment of the Policy; but when a risk has taken place upon some portion of the amount insured, the claim for the Return is said to be for Short Interest. As when an Insurance has been effected upon 100 Bags of Cotton, of which only 60 Bags have been shipped, a return would be claimable upon the deficiency, or Short Interest of the amount of the 40 Bags.

In making this claim it is incumbent upon the Assured, to show that the risk in no ways took place; for if it existed but for the shortest period of time, there is to be no return; if also the Underwriter can show that the insurance was illegal, or fraudulent on the part of the Assured, he is entitled to the premium, without being liable for any loss or return.

Upon the second Account, the only return now customarily made, is, when in time of war, and no warranty is given of the ship sailing with convoy, there is a stipulation that if the Ship

sail with convoy, and the Goods arrive safe, there shall be a return of a part, generally half, of the Underwriters' Premium. In this case, should the Ship sail with convoy, and voluntarily depart from it, the claim for either a return of premium or for the amount of a Loss, becomes forfeited.

Formerly, during the time of peace, returns were usual for safe arrival, but this is not now the practice; although in West-India winter risks, it is made a condition that if the vessel sail after the 12th January, there shall be a return of a part of the premim.

OF THE COMMISSION AND BROKERAGE UPON INSURANCES.

The Commission which is allowed by Underwriters to Brokers, and to other persons effecting Insurances, is 1 *s* in the Pound, or Guinea; as, if the Premium is 50 *s* per Cent, the Commission allowed is 2 *s* 6 *d* per Cent, the Underwriter receiving 47 *s* 6 *d* per Cent; if the Premium is $2\frac{1}{2}$ Guineas per Cent, the same allowance is made, and the Underwriter's Premium is $2\frac{1}{2}$ pounds per Cent.

Formerly, except in East India Insurances by the Company's Ships and in Insurances for time, the Premium was always in Guineas per Cent; but since the peace it has generally been in Pounds and parts of Pounds.

Upon the balance of an Underwriter's Account, if in favor of the Insurer, the Broker, or person having the Account, is allowed a discount of 12 per Cent.

The charge made by Brokers to their employers, for the settlement of a loss, is one-half per Cent upon the amount recovered.

The charge made by a Merchant acting as an Agent, is usually one-half per Cent for effecting an Insurance, and two per Cent for the recovery of a loss.

The Brokers' and Agents' Commissions are charged in the same manner upon the amounts recovered as average losses, but no Commission is charged upon procuring a return of premium.

THE STAMP DUTIES.

The most recent regulations respecting the Stamps to Policies of Marine Insurance, are contained in the Act of, 54 Geo. III. cap 133, by which the following duties were imposed.

1. For Coasting Policies, or from port to port in Great Britain, Ireland, Guernsey, &c.

Premium, not above 20*s* per Cent.... Stamp 1*s* 3*d* per Cent.
above 20*s* 2*s* 6*d*

2. For other Policies, whether foreign or for time.

Premium not above 20*s* per Cent....Stamp 2*s* 6*d* per Cent.
above 20*s*.....5*s*. 0*d*

3. For Policies of mutual Insurance, where no Premium is specified.

On Coasting Voyages..... ... Stamp 2*s* 6*d* per Cent.
Foreign and Time Voyages..... 5*s* 0*d*

In estimating the amount of the duties, any sum insured which may be less than £100, is charged as £100. Thus, £20 would require a £100 Policy, and £501 would require a £600 Policy. When the separate Interests of two or more persons are insured in the same Policy, the duty must be calculated upon each person's Interest, as if A's goods amount to £610, and B's to £510, a £1300 Policy would be required; but it has been decided, that in open Policies, this would not be necessary, and it seems questionable whether it would apply even in valued Policies, where the Insurance was effected in the name of their agent, and where each Interest was not declared.

In Insurances for specified times, no longer period can be insured than one twelve month, but if the insurance be described as upon a vessel for a particular voyage, or out and home, meaning from the day of her departure to that of her arrival back, the insurance holds good, whatever may be the intervening length of time.

In making use of Policies, it is allowed that a Policy Stamp for £100 at 5*s* per Cent, may be used for £200 at 2*s* 6*d* per Cent, &c.

CASES IN WHICH ALLOWANCES ARE MADE FOR POLICIES.

1st. When a Policy has been spoiled through some mistake in the drawing of it up, or when from any other cause it has been rendered it unfit for use, if no subscription has been effected upon it, or upon any unstamped paper for any Insurance which may have been written upon it, and application be made at the office within six months after it has been so spoiled, a fresh Policy may be obtained in exchange.

2nd. When any Policy has been underwritten, but not to the full amount which the Stamp Duty will cover, as when the Insurance has been intended for a larger sum than the Broker can get underwritten, or when by mistake, or from a lower Premium being accepted than was expected, a Policy with a Stamp for the higher rate is used, when one for only the lower rate was necessary, then if another Policy underwritten to the full amount of the Sums actually subscribed on the Policy to be exchanged, be produced within three months after the date of the last subscription, a fresh Policy will be given for it. But if any of the Insurers refuse to subscribe the second Policy, the amount of their subscriptions must be deducted from the amount which the Policy would cover, and the allowance must be claimed for the residue only.

3rd. When a Policy is underwritten and any mistake is afterwards found, it may be exchanged under the same conditions and liable to the same deductions as in case 2, unless the error is in the amount ordered to be insured, when no deduction is to be made, provided the other requisites are complied with.

4th. When any alteration is required in the terms of the Policy;—but as a Policy may be altered by consent of the underwriters without vitiating it, no advantage is likely to be taken of this permission.

5th. When a Policy is underwritten subject to the approbation of the Assured within a specified time, and it is so disapproved and allowed by all the underwriters, a fresh Policy may be obtained.

6th. When an Insurance has been effected upon either goods, freight, or ships, and from any cause whatever, the risk intended to be insured does not take place ; and when also all the underwriters, except those deceased, insane, bankrupt, or abroad, agree to make the usual return of Premium, the Policy may be exchanged, if required within three months from the date of the period when the Assured or his agent obtained knowledge of those facts, upon which he grounds his claim to the cancelment and return.

7th. In any insurance upon either Ship, Freight, or Goods, if the Interest of each party separately insured, shall be found to be less than the amount insured, by at least the sum of £ 1000, when the duty is 1*s* 3 *d* per Cent, or by £ 500, at 2*s* 6 *d* or 5*s*. per Cent, and all the Underwriters, except as beforesaid, agree to the return of premium for Short Interest, then, if the Policy be given up to be cancelled, allowance of the duty is to be made for the amount over-insured, as far as regards the full hundreds of Pounds.

The act states that this allowance is not to be made if the thing risked, or the Interest insured, is expressly valued at the sum in the Policy ; but it appears that in this case there would be no ground for a claim upon the Underwriters, which is absolutely necessary to be made out, before any claim can be made for an allowance of the Policy Duty.

When there has been a double Insurance, the two Policies are to be considered as but one.

In cases 4, 5, 6, and 7, if the Policy Stamp is not of a sufficient value to cover the amount insured, the Policy is void and no allowance can be claimed ; yet,

8th. When a Policy has been underwritten for a greater amount than the Stamp Duty will cover, and a fresh Policy with a proper Stamp has been underwritten within three days afterwards, by the same or by some of the same persons, and upon the same property and risk in all respects, if the first Policy be brought to be exchanged within seven office days after the date of the last subscription, a fresh Policy may be given in exchange for the one so rendered of no effect; but if the second Policy cannot be effected for so large a sum as appeared upon the first Policy, the difference must be deducted from the sum which might correctly have been underwritten.

In all cases of claiming these allowances, where the Policy is directed to be given up, and the insurers wish to retain it, application must be made to the Commissioners at the Stamp Office, Somerset House, and the same must be done in the eighth Case, if instead of using a fresh Policy, it is wished to put on an additional Stamp.

Several minor regulations are directed to be observed upon making application for these allowances; the chief of them are the following. The claimant must date and sign the Policies in the margin. In taking off the Underwriters' names they must not be completely effaced or rendered illegible. In returns of Premium, the Broker's Commission of 1 *s* in the Guinea, or Pound, is not taken into account; and the same is the case with the Underwriter's Commission of $\frac{1}{2}$ per Cent for his trouble, but not for any risk incurred.—All these statements must be verified by oath, or solemn affirmation, before the Commissioners, or a proper Officer; and heavy penalties are imposed upon any Underwriter signing a false declaration, and upon any other person forging an Underwriter's name, or assisting in any fraudulent alteration.

Government having offered to supply Brokers and others with Stamped Slips, for facilitating the obtaining of names to a Policy, similar conditions of allowances or exchanges for stamped Policies have been admitted to those preceding, but so much trouble would have attended this regulation, that it has never been carried into effect.

For the accommodation of Brokers and other persons concerned in effecting Insurances, permission has been given for the opening of Accounts, at the Sea Policy Office in Lombard Street, which are to be settled eight times in the course of the year; for the due performance of which, bonded security is required to be given. At the time of payment, if the amount is £ 30 or above, a discount of $1\frac{1}{2}$ per Cent is allowed, and the same allowance is made for purchases to the same amount with Cash.

A SUMMARY OF THE MOST IMPORTANT PARLIAMENTARY ENACTIONS AND LEGAL DECISIONS ON THE SUBJECT OF MARINE INSURANCES.

THE THINGS INSURED.

In order to prevent Insurances upon Contraband Goods, they have not only been declared to be illegal and void, but any Insurer engaging the safe delivery of such articles, would become liable to the penalty of £500.

Insurances upon the exportation of Sheep and Wool are also illegal, and would subject the Insurer to a penalty of £50, and six months solitary confinement. If the Insurance should be worded to be generally upon goods, and it is afterwards found that Wool forms either the whole or a part, the underwriter is not liable for any loss, and may keep or claim the premium.

Insurances may lawfully be made upon articles which are contraband only with regard to the revenue laws of another country, but not so to those of England; yet an underwriter is not liable for the confiscation of a Vessel and Cargo, when navigated contrary to the laws either of this country or of any other state.

Any violation of the conditions by which ships, under particular circumstances, are permitted to trade, vacates the Policy, or renders the Insurance of non-effect.

In time of war when a vessel trades with an enemy's country, by virtue of a licence, the goods may be legally insured, if they belong to either a neutral or a British subject.

Insurances cannot be effected upon Seaman's wages, but they may upon goods, or shares of the vessel, belonging to the crew or to the Captain, unless they be given in compensation for wages.

In Insurances upon Freight, the vessel must have begun to load, to render the Insurer liable for any damage. If only part of the Cargo be taken in, the insured can recover for the whole upon a valued policy. Also if insured from a given port to the port of

loading, and the vessel be lost on the passage, the insurance upon the Freight can be recovered.

The expected profit upon goods may be separately insured, or the consignee may insure an expected commission, but it has rarely ever been practised.

ON THE INTEREST OF THE ASSURED.

The general principle upon which the interest of different persons in the same goods may be determined, is the advantage they would receive by their safe arrival, estimated on the original cost in open Policies, and at the insured amount in valued Policies.

In the Insurances upon British Goods and Vessels, the party assured may be required to prove his interest.

The Freight of a Vessel is insurable only by the legal owner, who must have complied with the forms required by the Acts of Navigation, to entitle him to recover a loss.

In Insurances upon Bottomry and Respondentia Loans, only the sum lent can be insured, and the owner of the property cannot insure more than the surplus value, nor can he be an insurer in the Policy upon the Loan.

By the statute of 19 Geo. II. cap. 37, no Insurance can be made upon Goods or Ships of British subjects, with the clause of "Interest or no Interest," or "without further proof than the Policy," or "by way of gaining or wagering," or "without benefit of salvage to the Insurer," excepting on private ships of war, and on goods imported in British ships from any port in Europe or America, belonging to the Crowns of Spain and Portugal.

To Foreign Ships and Goods these restrictions do not apply, as the production of the Policy may, in this case, be sufficient proof of Interest.

Insurances upon the property of foreigners at peace with this country when the assurance is effected, become vacated upon war breaking out with their nation. If no risk has taken place, and the insurance has been made by a British subject, a return of premium may be claimed; but if the risk be begun, the underwriters may keep the premium, without being liable to make good any loss.

OF THE SHIP.

In every contract of Insurance, there is an implied guarantee on the part of the assured, that the vessel is sea-worthy, or tight, staunch and strong, properly manned, provided with all necessary stores, and in all respects fit for her intended voyage, before it commences.

This requisite state of the ship will admit of different degrees of worthiness, but there is no necessity for detailing them when the Insurance is effected. It is upon account of these different states of sea-worthiness, which are still insurable, that makes it disadvantageous to effect Insurances "per ship or ships," as the Insurer is obliged to guard against an increased risk, by an increased Premium.

When a ship is insured at and from a given place, it is not requisite that she should be sea-worthy until the time when she sails, and her being so then, is sufficient to maintain the Insurance.

In case of a loss, if it be not shown to have proceeded from other causes, it shall be presumed to have arisen from not having been put into a proper condition; otherwise, if the loss be ascribed to sea-damage, proof of sea-unworthiness lies with the Insurers; but the least deficiency in the usual necessary stores of a vessel, will afford a plea for non-payment of a loss.

Besides being properly manned, it is necessary that in all the usual parts of an intricate navigation, a competent pilot should have charge of the vessel, or the underwriter will be released from his responsibility.

When goods are insured by a particular ship, if sent by any other, the Policy is vacated, and if changed, without necessity, from the ship insured, after the risk has commenced, it is a deviation which discharges the underwriters; in the first instance the premium must be returned, and not in the second.

The case of a wreck will admit of the cargo saved being sent by any other vessel, upon the risk of the same Insurance; or if the goods be sold and the produce be invested in fresh goods, they will be protected as the original property; for when the best is done for the advantage of all parties, the underwriters are responsible, both for the goods and the expenses attending any insured misfortune that may happen to them.

In Insurances per ship or ships, if two or more Policies be effected upon the same person's goods, the whole is considered as one insurance; but when one Policy specifies a particular ship, and the other, ship or ships, they are considered as separate insurances.

OF THE VOYAGE.

In all Insurances it is presumed that the vessel shall be legally navigated, and be employed in lawful voyages or to places where no prohibition exists, against her either touching at or trading with, though permission, by an introduced clause in the Policy, be given to her touching at or putting into any place whatsoever, or wheresoever.

When the terms of the Insurance allow a vessel to depart from the usual course, or when she so departs from urgent necessity, it is no deviation discharging the liability of the Insurers.

If any deviation be voluntarily made, all claim upon the underwriters for future damage, ceases from that instant, even though the vessel should immediately afterwards resume her course.

If liberty be granted to stop at only particular places, the stopping at any other will be fatal to the Insurance; but where no prohibition is specified, the ship may stop or touch at the places usual in such voyages.

The order of the places at which a vessel may stop, must be strictly complied with, unless prevented from unavoidable circumstances.

All unnecessary delays are considered as deviations.

Amongst the cases which justify a deviation, besides that arising from stress of weather, the following are to be reckoned.

1st. The want of necessary repair, which must be completed with all proper expedition.

2nd. A necessity for either lightening the ship, or taking in more ballast or goods in its place.

3rd. The departure from the usual course to avoid capture or detention, or to obtain the protection of vessels of war.

4th. To succour other ships in distress.

5th. To obtain fresh hands or medical assistance for the captain or crew.

6th. From compulsion arising from the mutiny of the crew.

OF THE RISKS UNDERTAKEN BY THE INSURERS.

The risks undertaken by the Insurers are so clearly defined in the common wording of the Policy, that scarcely any can occur, without being included under one or other of the heads.

The Insurers are not liable for any loss occasioned by the improper conduct of the assured; and against the effects of some particular losses, they protect themselves by the memorandum attached to the Policy.

Of the nature of general and particular average losses, mentioned in the memorandum, notice will be taken in a following section.

The duration of the risks undertaken by the Insurers, is defined in the Policy, which is to be construed largely, for the benefit of trade and of the assured.

When Goods are put into Lighters to be conveyed on board of Ship, the risk commences, and it continues while, in the discharging of the cargo, they remain in public lighters for the purpose of being landed; but whenever the consignee takes possession of them, the insurers are released from their liability on account of any future accident.

No unnecessary delay must be made in the discharge of the vessel, or the Insurance ceases; but in all cases the custom of the trade must regulate the continuance of the risk, and this custom every underwriter is presumed to know.

Insurances upon vessels are generally made for a stipulated time, and most commonly for a twelvemonth, commencing the risk from the beginning of the appointed day, and ending with the close of the prior day of the month in the following year; as from August 12, 1819, to August 11, 1820, both days inclusive.

REPRESENTATIONS AND CONCEALMENTS.

Besides the written warranties on the part of a person effecting an insurance, any verbal representations made by the Broker, will be equally binding as if inserted in the Policy; therefore if these representations should be materially incorrect, or be made with a fraudulent intention, the Policy will be void; but if immaterial, or even if the risk be represented as less than what it is described to be in the Policy, it will not affect the contract.

On the other hand, if there be a concealment of any particulars, with which the underwriters should be acquainted, to regulate their opinion of either the risk or of the premium, it will vitiate the Insurance, even although the information may be innocently withheld, as the underwriter and the assured should have equal information of the danger incurred; therefore if the underwriter should know that the vessel has arrived safe, when he undertakes what otherwise would be a risk, he cannot demand the payment of any premium; while if the assured knows the goods to be lost at the time of insuring them, he has no claim upon the underwriter for remuneration.

The Broker is also bound to inform the insurers of any reports he may have heard, of any disaster happening to the vessel, although he may not believe them to be true.

OF RE-INSURANCE AND DOUBLE INSURANCE.

A Re-insurance or an Insurance made by an underwriter to relieve himself from the responsibility he has undertaken, was made illegal by the statute of the 19 Geo. II. but it is provided, that in case the insurer shall be insolvent, become bankrupt, or die, such insurer or his executors, assignees, &c. may make re-insurance to the amount of the sum by him before insured, provided it be expressed in the Policy to be a re-insurance.

A Double Insurance is when a second Insurance is effected upon the same risk, either by the same person or by some other person interested in the safety of the property.

In the event of an underwriter to a Policy failing before the risk is terminated, a fresh insurance is sometimes effected, and this which, as far as the amount insured, may be reckoned a double-insurance, is also sometimes called a re-insurance.

Cases have occurred in which several insurances have been effected by one person, for the purpose of fraudulently obtaining the settlement of average losses upon each Policy; and sometimes, generally by mistake, both the Agent and Principal have effected Insurances upon the same goods. Under some particular circumstances two or more persons may have each an insurable interest, but such are not considered to be a Double Insurance.

When a Double Insurance has been made, the assured may claim satisfaction for any loss upon either of the Policies, and claim a return of premium upon the other; or, as is most usual, he may consider both Policies as belonging to one Insurance, and obtain a settlement as upon an over Insurance; if the assured proceeds against the underwriters to one Policy, and establishes his demand, they may claim a proportionate contribution from the underwriters to the other, deducting the returns which the others may have made.

In no case is one person to have a double satisfaction, for the two Policies are good only to the extent of the property hazarded.

ON THE CANCELMENT OF THE POLICY FROM WANT OF INTEREST.

A Policy may be cancelled by there being no risk incurred, or by the subject of the Insurance being illegal, or by the transaction being fraudulent.

A Want of Interest may arise either from the contemplated voyage or hazard of the Goods not taking place, or from its not being commenced within a limited time, or by the Goods not being sent by the specified vessel, or generally by any departure from the terms of the Policy, before the risk is begun; in all these Cases, the Underwriters are bound to return the premium which they have received, or to allow it in Account. In this return, as the Underwriter receives only the Pounds out of the Guineas in the Premium, or if the Premium be in Pounds, as is now usual, he allows a deduction of five per Cent, it is only this diminished premium which he is to return; but, unless he is precluded from it by the terms of the Policy, he is allowed to deduct ten shillings per Cent as a compensation for his trouble.

In cases of Re-insurance without a legalized necessity, of illegal trading, or of fraud on the part of the assured, the risk is cancelled, but the premium is not to be returned.

In Insurances at and from a given place, the insurance is not to be considered as divided into two distinct risks ; so that in case of a loss at the port, there shall not be any return of premium for the non-performance of the voyage from it ; and in Policies for time if insured for 12 months, but at and after a given rate per month, the given premium is due for the whole time, though the vessel may be lost the following day. This is, however, generally guarded against, by a clause specifying the premium to be returned for every month not commenced.

OF THE RETURN OF PREMIUM FOR SHORT INTEREST AND SAILING WITH CONVOY.

In over-insurances, or where a sum is insured greater than the amount of the property risked, and frequently in double Insurances, the surplus amount is called the Short Interest which is thus determined.

With valued Policies, the Interest shipped being specified, the surplus if any is directly ascertained.

With open Policies, the Interest risked is the Invoice cost of the Goods and charges, or the amount of the Freight actually made, with the expenses attending the Insurance, and the charges, if so agreed, which would be incurred upon the recovery of a loss; the amount so ascertained to be the interest, is deducted from the amount insured to determine the over-insurance, or Short Interest. That amount which the Underwriter would have to pay in the event of a loss, is that upon which he is to receive a premium, whether the property is lost or arrives safe.

The rate of the return of premium for sailing with the protection or convoy of Ships of War, with the further condition of the goods, &c. arriving safe, is always stipulated in the Policy, and it is always a portion of what is termed the underwriters' premium, as explained in page 409.—Of course, this return only exists in the time of war.

In the different law authorities, it is laid down as a principle that the return is to be made if the Ship arrives safe, though the Goods may have been jettisoned, or destroyed, or much deteriorated; but this doctrine is contrary to the established practice, by which no return is made for any part of the Cargo, upon which the Underwriters may have to pay for a loss; the condition being rather for the safe arrival of the Goods, than being limited to the safe arrival of the Vessel.

OF LOSSES.

The Losses against which the Insured are protected by the Policy, are such as are either total or partial.

A total Loss is not only one in which the property is wholly destroyed, but if the voyage be lost, or the object of the shipment defeated, or the goods be so much damaged as to be not worth the freight, they may be abandoned to the underwriters.

A partial Loss is any damage short of a total Loss, and it will be separately considered in a following section.

In total Losses by the perils of the sea, if the vessel insured is not heard of for a considerable length of time proportioned to the voyage, or the nature of the case, it is to be presumed that she has foundered, or has been totally destroyed by an enemy, and a compensation may be claimed.

For damage that may be sustained from ordinary service, the underwriters are not liable : to be recoverable, it must be such as arises from stress of weather, or the vessel striking upon rocks, or running upon sands, or ashore, or from Fire, Barratry, Capture, &c.

Losses by one ship running foul of another, are included in those of the perils of the sea. In some cases of negligence, the owner is liable for the mischief his vessel may cause to another; this is not ordinarily recoverable from the underwriters, though it is a loss that is generally undertaken to be provided for, in Policies of mutual assurance.

In cases of particular danger, the master of a vessel may run her ashore to preserve the lives of the crew ; and to prevent her falling into the hands of an enemy he may set her on fire, without, in either case, vitiating the insurance.

When a vessel is captured it is a total Loss; but if recovered before the property is abandoned to the underwriters, it continues to belong to the assured, the insurers being liable for any salvage which the re-captors can claim; if the voyage be lost in consequence of the capture the owner may abandon.

Any illegal act committed by the master and mariners by which the owners may be either injured or defrauded, is termed Barratry, which is one of the losses for which the insurers are usually responsible. The most common case is that of smuggling, but it may arise from the crew running away with the ship, or by the master's cruizing in quest of prizes without authority or consent of the owners, even though intended to be for their advantage.

All contraband or prohibited trade with any of the colonies or settlements belonging to this country, as trading to the East Indies without a licence, is illegal on the part of the proprietors, and would vacate a Policy; but if done without their consent or directions, the underwriters would be liable as an act of Barratry.

If a loss arise, of which the immediate cause was Barratry, but which loss did not take place during the time prescribed for the continuance of the risk, the insurer is not liable.

In the Insurance of animals during a voyage, it is usual to make it a condition that they shall be delivered alive at the stipulated port, and as more than the ordinary chances of loss are thus insured against, the premium is necessarily commensurately higher.

It may be observed, that what is termed a Salvage Loss, is one which has been a total Loss, but in which the property has been recovered; as in cases of wreck, or capture, or the abandonment of the vessel for the preservation of the crew. For re-capture the salvage allowance is one eighth by king's ships, and one sixth by private ships. For the preservation of the goods or vessel in cases of wreck, &c. the salvage allowance is to be settled by three Justices of the peace, if the wreck took place on the shores of this country, or the vessel be brought into a British port; in other cases, only what may be adjudged to be a reasonable compensation can be claimed of the insurers. If the salvage expenses are considerable, the assured may abandon, as a total loss.

OF ABANDONMENT.

When such a loss takes place as renders the thing insured of little or no value to the owner, his surrendering it to the insurers is called an abandonment, and he claims a remuneration as for an absolute total loss.

In the event of a capture the assured may abandon, even if the vessel be shortly afterwards retaken, provided either the voyage be lost or the expense of salvage, &c. be more than the property is worth, or the underwriters refuse to pay any attendant expenses.

If a total Loss be settled by the underwriters, and the property be afterwards recovered, they cannot claim a return of the amount, for when the abandonment is once made, it is final in its effect; but the insurer may reject it if it prove to be a partial, and not a total loss, and the assured may recover it again, if it should appear that either party has acted upon false intelligence.

Upon such damage arising as may entitle the assured to make an abandonment, he is bound to do so within a reasonable time; otherwise, it is presumed to be his intention to claim for a partial loss, and any act of the Captain is considered to be on his behalf, which in the event of his abandonment, would be for the benefit, and at the charge of the underwriters.

From whatever cause an abandonment may be made, it must be unconditional, and the whole of the property must be included, except where the goods are separately valued, when each parcel may be separately relinquished.

By the abandonment, the underwriter becomes the legal owner and, if the surplus of the produce of the things saved, be greater than the amount of his subscription, he is entitled to the profit.

If only a portion of the value of the goods be insured, the abandonment must be in a similar proportion of the goods saved.

THE ADJUSTMENT OF LOSSES.

In valued Policies the amount of the Loss is determined from the Policy; but in open Policies, the amount is the invoice cost of the goods and charges, with the cost of the Insurance, and, (if so specified) the charges attending the recovery of the Loss, as the Agents and Broker's Commission.

Insurances upon ships are seldom made in open Policies, as they are usually estimated as worth a fixed sum; otherwise, every expense attending the outfit, with the cost of the Insurance, forms an addition to the cost of only the vessel.

When the underwriters are satisfied of the fairness of the loss, their subscriptions to the Policy are cancelled, and the Policy is endorsed with their agreement to pay the amount adjusted at one month's date; the money, when it thus becomes due, is as recoverable as upon a Promissory Note or Bill of Exchange; if however it is found that any fraudulent practice has been used, the underwriter may resist the payment, upon satisfactorily proving the dishonesty of the transaction; but no excuse will be of any avail, from their pleading an insufficiency of proof of the loss. The adjustment admits their having all requisite evidence of this fact, provided that the evidence was not of a fraudulent nature, or that the underwriter had not misconceived the law or fact, upon which the adjustment was made.

When the property is insured in an open Policy, and the value is greater than the amount insured, the owner must bear his proportion of the loss, as will be noticed in a following section.

OF AVERAGE LOSSES.

Besides those losses in which the whole of the property is destroyed or rendered of no value, the insurers are liable to make good partial destructions or deteriorations, which are called either general or particular average losses.

The title of averages is given in consequence of the amount being distributed, by per centages, upon the whole of the property; and the distinction intended by the terms, is made according to whether from the nature or cause of the loss, it is to be considered as a portion of the whole of the property, as of ship, freight, and cargo, or as only of one of these.

To constitute the former, which is called a general average, it is necessary that the loss should arise from the design of benefiting the remainder of the property, for if it proceeds from any accidental cause, it comes under the head of a particular average.

OF GENERAL AVERAGES.

The losses to which all parties are liable to contribute, are generally arranged under the following heads.

1st. Jettisons, including, not only such parts of the cargo as it may be judged absolutely necessary to throw overboard, for the preservation of the ship and the lives of the seamen, but all damage done to the property of the ship by cutting away her masts, sails, boats, anchors, &c.

2nd. Damage done to the ship for the purpose of immediately enabling the seamen to make the Jettison.

3rd. Damage done to the cargo preserved, by any direct results of the Jettison, as by shipping a sea upon opening the hatches, &c.

4th. Damage incurred by the owners of either the vessel or cargo, for any material destroyed or injured for the general benefit; as the cutting up of sails, &c. for the purpose of stopping leaks, or loss upon any part of the cargo or upon the freight; when some of the goods are obliged to be sold to defray the expenses of repairs.

Upon these it is to be observed, that if the vessel is not preserved from the danger in which the Jettison was made, no con-

tribution of this nature is to be admitted; but if the vessel outlive a storm in which this destruction takes place, and is afterwards lost, the owners have a claim for a general average.

Other causes than stress of weather, may justify a Jettison, and oblige all interested to contribute; of which the two principal are, to get clear from the pursuit of an enemy, and to lighten the vessel when she gets aground; in the latter case if the goods be put into lighters and these should be lost, they are to be reckoned as though they had been destroyed by being thrown overboard; and as no property is to contribute to any loss, but such as is in the ship at the time of her distress, if the vessel pursues her voyage, this property if preserved and left behind, is not to contribute for any future damage.

Ship's stores thrown overboard, are to be valued at the price at which they can be replaced.

If masts, &c, be cut away in consequence of any damage they have received, they are not to be made the subject of any contribution; nor are goods stowed upon deck, nor a boat hung over the ship's stern.

Of the expenses incurred for the mutual benefit of the parties interested, and which must be contributed for by general average, the chief are, those for lightening or unloading her either to get her afloat, when she accidentally gets aground, or for the purpose of repairing her when she has met with any misfortune. The charges for re-loading the ship and for taking care of the cargo become general average; as are also, any expenses for anchorage, pilotage, remunerations for additional assistance, salvage for recapture, compositions for the release when unlawfully detained in foreign ports, and generally all loss or expenses incurred for the joint preservation of the ship and cargo.

It is now understood, that, contrary to former practice, if a vessel be run ashore to avoid an enemy, or to prevent her foundering at sea, any property saved is not liable to contribute towards the restitution of that which is lost; and it has recently been determined, that neither the expense of repairing a ship injured by successfully resisting an enemy, nor of curing the the wounds which the sailors sustained in the action, nor of the ammunition expended in the engagement, are subjects of general average loss.

THE ESTIMATION OF THE VALUE OF THE PROPERTY CONTRIBUTING TO A GENERAL AVERAGE.

OF THE SHIP.

The value of the vessel is sometimes estimated at the amount at which she is declared to be worth in the Policy of Insurance, if it is nearly what may be considered as a true valuation, otherwise, it is taken at the amount she was worth with all her stores, &c, at the time when she sailed, after taking off all accidental deterioration up to the time of the loss occurring; or it is determined to be her value at that period, with the addition of whatever sum her owners may be entitled to receive from a general contribution. It might be objected to the latter method, that the worth of the ship must be known, before the amount to be received as a general average can be ascertained; but as the contributing amount, particularly of the ship, is seldom made with any great nicety, there is no reason, practically speaking, against its adoption.

OF THE FREIGHT.

The liability of the freight to contribute towards any general average loss, principally depends upon its being exposed to risk or exempted from it. If the freight is paid for in advance, or a stipulated sum is paid for the voyage independent of safe arrival, there is no liability to loss, and, consequently, no contribution; for under these circumstances, the freight forms a part of the Interest of the Goods, and it is generally included in the Insurances made upon them.

When the freight is due only upon the delivery of the cargo or upon the quantity delivered, it is an insurable interest, liable to bear its proportion in a general contribution; on the contrary, as wages are not insurable they do not contribute, and being considered to arise out of the freight, their amount is to be deducted when it has to pay general average.

OF THE CARGO.

When the contributing values of the vessel and freight, are taken, as they sometimes are, at the amounts at which they have been insured, the value of the cargo is taken in a like manner, or else it is estimated at what it would have been worth if it had arrived safe at the port of discharge, after deducting those claims for which it may be considered as pledged, before it can come into the possession of the consignee, as freight, duty, and landing charges; when a Vessel, outward bound, receives damage upon the shores of this country, it is usual to collect the value of the Cargo from the Invoices of the Goods.

It has been observed, that for goods stowed upon deck, no claim can be made for jettison, but they are, notwithstanding, to bear their portion in the contribution.

The personal property of passengers, as their clothes, jewels, &c, is not liable for a general average. Money is sometimes considered as personal property, and sometimes, when in large quantities, as a part of the Cargo.

In voyages outwards it is sometimes necessary for the master to have a general average contribution settled at the port of delivery; but however this may be made up, the underwriters in this country are not liable to pay any more charges, than those for which they would have been answerable, if the statement had been made out here.

OF PARTICULAR AVERAGE LOSSES.

A partial Loss or particular Average, is one arising from those liabilities to damage against which the Insurance is made.

These partial Losses are of two kinds, the one is when a portion of the property is totally destroyed, as when a boat is carried overboard, or when the contents of a hogshead are washed out, and the other is when the whole or a part is only deteriorated in value.

OF THE SHIP.

The loss of Boats, if properly lashed up, the breaking of a Cable and loss of Anchor, and damage, from wreck or by running ashore to avoid a greater peril, from storms or heavy seas, from the attack of an Enemy, or from endeavours to escape capture, are subjects of particular average.

When a vessel runs foul of another, if neither is particularly in fault, each owner must bear his own loss, which is recoverable from the underwriters; but if the accident arises from the negligence or misconduct of the master and crew of one vessel, their owners are liable not only for the damage they sustain, but also for the mischief they occasion to others, without their underwriters being liable to any claim for a partial Loss. In policies of mutual Insurance, the Company, or Club, is usually responsible for all damage arising from collision, or both for that done to their own vessels, and to what can be legally claimed for the mischief they do to others.

By the memorandum to the common Policies, the amount of the damage must be three per Cent upon the whole value, to render the underwriters liable for the loss; unless it arises from the stranding of the vessel, which is considered as a temporary wreck, when any amount however trifling can be recovered.

OF FREIGHT.

When Freight is separately insured, the amount is determined, as with Goods, either by a valuation in the policy of Insurance, or, being left open to be proved as Interest shall appear, it is ascertained from the amount in the manifest, covered by the charge of Insurance.

If by any of the accidents insured against, the goods are destroyed and the freight is thereby lost, the underwriters have to make it good, or to bear their proportions when the Freight has been fully insured, provided it amounts to three per Cent, which is one of the conditions of the Memorandum to the Policy.

When the Freight is valued, the whole of the Freight which the Ship would have made if the Goods had arrived safe, is to be taken as an equivalent amount, and any accidental deterioration is to be apportioned according to these two sums, saying as the amount of Freight which would have been made is to the valued amount, so is the amount of the actual loss to the amount which the Insurers have to pay.

The Agent's and Broker's Commissions, upon the recovery of a loss, may be insured upon the amount of Freight in an open Policy, but they require to be particularly specified.

OF THE GOODS.

The deterioration of goods may proceed from either a loss in quantity, by a part being wholly destroyed, or a loss in value by the injury the whole may have sustained, or it may proceed partly from both these causes, and the amount to be borne by the underwriters is settled upon the following principles.

The amount of the interest, is first to be determined, unless the value is specified in the Policy.

It is next to be ascertained, whether the insurance has been effected to the whole amount of the goods, in order to determine whether a part of the loss is to be borne by the owner.

Then, in case of a deterioration in value, the rate and amount at which the Goods would have sold if they had arrived safe, without any deduction of charges, is to be compared with the gross amount which they have actually produced, and thus the loss in value is found ; it is then said, *as the gross selling price is to the gross loss, so is the insured value to the loss the underwriters are to pay.*

When there is a deficiency in quantity, the deterioration is found by either of the following methods;—The one way is, to compare the Invoice weight of the same sort of goods not damaged, with the weight they have yielded, and thus from the Invoice weight of the damaged goods, to determine the weight which they would probably have produced. The other is, to find an average weight of the articles damaged, from the weight of those which have arrived sound, the difference between which and the weight it has yielded, shows the deficiency in quantity which was required to be determined. In some few cases, this deterioration in quantity can only be ascertained, by finding what the weight or measures of the same sort of goods of the place of consignment, generally yield in this country.

In legal works it is usually stated, that in cases of average loss, the Policy is opened if before valued, or that the value in the Policy can be no guide to ascertain the damage; but this is not consonant with all established practice; if the goods are valued this amount forms the third term of the preceding proportion, and if they are not valued, or the amount of the interest is not declared before the loss occurs, then the amount is to be that which will include the invoice cost and charges of the goods, together with the cost of the insurance, and the guaranteed expenses.

If the insurance has been effected upon only a portion of the goods shipped, and any of which, if lost, might be comprehended in the description in the Policy, the assured must bear his proportion of the loss. Thus if only 60 hogsheads be insured, and 80 be shipped, and an average loss is to be adjusted, the underwriters would have to pay only 60-80ths, or 3-4ths of that for which, otherwise, they would have been accountable.

A similar mode of adjustment is used, in the case of a loss of an equal quantity of goods to those specified in the Policy, where a similar deficiency exists in the insurance; as if only £6000 be insured, per ship or ships, upon goods generally or without any particularization, and it should appear that the covered interest is really £8000, if a loss by one of the vessels containing them should amount to £6000, the underwriters would have to answer for only 6-8ths or £4500; for it might be equally argued that those saved were those insured, as that they consisted solely in those that were lost. The underwriter must in all cases be put into the same situation with regard to a loss, that he might be with respect to a return of premium; or the assured should not have it in his power to increase the interest when there is a loss, and to diminish it when he can claim a return.

It may be further observed, that when goods would come to a losing market, he would receive, in the event of either a total or partial loss, a greater sum than the actual damage he would have sustained had they not been insured; but this consideration would not alter the principle of adjustment.

For many sound arguments and *pro formâ* statements, to establish the correctness of making the adjustment upon the gross rather than the net proceeds, we must refer to Mr. Stevens's excellent treatise upon this subject, with a continuation in a letter addressed to Mr. Shedden, which has recently been published.

OF SALVAGE LOSSES.

A Salvage Loss is a total Loss, with the deduction of the value of the property saved.

The term Salvage is now used to denote the expenses, given or awarded to the persons by whom the ship or cargo has been recovered; though, in former times, it was applied to the property restored. As before observed, the remuneration for re-capture, is regulated, in time of warfare, by his Majesty's proclamations, and for the preservation of the remains of a wreck, it is by Act of Parliament to be determined by three justices of the peace, if the misfortune takes place on the shores of this country; except upon that part of the coast which is under the jurisdiction of the Warden of the Cinque Ports, when the award is made by the Commissioners whom he appoints; but in these cases an appeal may always be made to the decision of the Court of Admiralty, by which the allowance for the restoration of a vessel that has been abandoned by her crew, is most commonly adjusted.

The settlement of a particular average upon the principles of a Salvage Loss, is one that is much objected to by most of our legal authorities, and even now by insurers themselves. If the goods arrive in a damaged state to a losing market, it is much to the interest of the assured that it should be so decided; and it is also such when the deduction of the charges, brings the net proceeds of the sales to a lower sum than the proportionate amount of the Loss. On the other hand, this mode of settlement, as a Salvage Loss, may, upon a gaining market, not only prevent the owner from receiving his proper compensation for the deterioration in value, but if the produce of the sales be equal to or greater than, the sum insured, he will be left without any recompense for what damage may have occurred.

In the practice of the settlements of partial losses, in this country, it is in a great measure regulated by established custom, whether they are to be made up as salvage or as average losses.

With perhaps scarcely any exception, raw materials or colonial produce come into adjustments by particular averages. In all consignments to places where it may be considered that the rate at

which the damaged goods would have sold, if they had arrived sound, can be determined, there seems to be no reason against the use of a similar method ; but where the articles are of such a nature, as are most fancy goods, cutlery, &c, that no estimation can be formed of what they might have produced, there appears no means of avoiding the settlement upon the principles of a salvage ; for the United States of America, the Brazils, the Rio de Plata, Sicily and Malta, the custom has been chiefly, if not entirely, to make up salvage statements, but it is now declining. Some underwriters make up their minds to this mode of settlement, when they undertake the risk, and, rather than be troubled with a frequent discussion of its merits and demerits, they submit to its adoption, however it may operate to their disadvantage.

Besides the settlements of partial Losses as being either salvage Losses, or particular average losses determined by taking the sound and deteriorated selling prices into consideration, and distributing the loss upon the insured interest, Mr. Stevens, in his intelligent work before referred to, mentions two other methods, viz. of taking the difference between the sound and damaged Sales, without reference to the cost or the insured value ; and of taking the comparative loss from the net proceeds instead of the gross proceeds. Of these it may be remarked, generally, that they are very seldom practised in this country. The objection to the the former is, that its effect would be, in most cases, to throw a greater loss upon the insurer than what was intended to be provided for by the assurance, and, in some, to make the amount of a partial loss, as great as, or even greater than, a total loss. To the latter method the objection principally arises from some of the charges deducted, being usually the same, whether the goods arrive safe or damaged, and consequently preventing a proportionate allowance of loss, unless they are first of all proportionately reduced. When the charges are rateable like Commission, Brokerage, and other per Centages, no such objection exists.

OF THE RISKS EXCLUDED BY THE MEMORANDUM.

The minor deteriorations to which the Ship and Cargo are liable, are of such frequent occurrence, and it is commonly so difficult to determine whether they have arisen from accident, negligence, or design, that underwriters have been obliged to exclude them from the risks against which they enter into a guarantee, by excepting them from the Insurance in the terms stated in the memorandum to the Policy.

Some articles are warranted by the assured to be free of average, unless general or the ship be stranded; in either of which cases, the underwriters are usually liable for the least amount of damage. Sugars, and some other goods, are warranted free under five pounds per Cent; and all other articles than those specified, and also the Ship and Freight, are warranted free under three per Cent.

Sometimes the rates are altered in private insurances, and in the Policies of the two assurance Companies, the memorandums run thus:

For the Royal Exchange.—Free from all average on corn, flour, fish, salt, fruit, seeds, hides, and tobacco,—unless general, or otherwise specially agreed.

Free from average on sugar, rum, skins, hemp, and flax, under five per Cent, and on all other goods and on ship, under three per Cent, except general.

For the London Assurance.—Free from all average on corn, flour, fruit, fish, salt, and seeds, except general.

Free from average on sugar, rum, hides, skins, hemp, flax, and tobacco, under five pounds per Cent; and on all other goods and ship under three pounds per Cent.

In these there is no limitation to the average on freight, and rum is included with the five-per-Cent articles.

In cases of stranding, or running ashore, or upon a rock or bank, it is not every stoppage of this nature that constitutes a stranding sufficient to render the Insurers liable. Thus striking upon a rock and remaining there a minute and a half, running ashore and remaining there an hour, have been held to be no stranding; while running upon some piles, and remaining there until they were cut away, and driving ashore stern foremost, and remaining there two hours until the tide flowed, have been adjudged to be stranding, within the meaning of the Policy.

In order to diminish the effect of these exemptions, it is very usual to insert in the Policy, a clause declaring the liability of the underwriters to pay average upon every 10 hogsheads, &c, or upon each description of Produce, each Bale of manufactnred Goods, &c, as if separately insured; and thus a loss which would be too small to be recovered upon the whole amount insured, might be sufficiently large upon the separate portion.

Of those articles warranted free of average, except general, or the ship be stranded, no partial loss, however great, can be recovered; the property must be wholly destroyed, or be rendered of no value, or the damage must arise from stranding, to give any claim for remuneration from the Insurers.

OF THE LOSSES TO WHICH THE OWNERS ARE LIABLE.

There are many circumstances under which the damage received by the property embarked, is not within the meaning of the perils insured against, and for which the owners of the ship or goods are liable.

The owners of the ship are liable, but not beyond the amount of the ship and freight, for any robbery or embezzlement of gold, silver, jewels, &c. if specified as such, with a declaration of their value, in the bills of lading; or for any loss or damage to any goods or property laden on board the vessel, occasioned by any fault or neglect of the master and crew; as besides the pillage of the property, any damage arising from the stowage, exposure to the wet, or for any plunder or damage by negligence while in the ship's boats, either in being taken on board or being landed; they are also liable for the damage, arising from any accident occasioned by defect in the ship's tackle, used in removing the goods.

Although the owners' responsibility is limited to the value of the ship and freight, the master is liable for any amount of loss; but neither is accountable for damage done by fire, or by thieves entering the Vessel by force, against which the property may be protected by an insurance.

The owner of goods is liable for any mischief done to either the vessel or the goods of another person, by reason of their being improperly packed, or not being rendered sufficiently secure; but this is a case that may be supposed to happen very rarely, and only with an article of a very destructive nature; for, with ordinary goods, it is part of the Captain or Mate's duty to see that they come on board in a proper condition, and to stow such as may be liable to do mischief by leakage, under or not above such as may possibly be damaged.

*

LLOYD'S.

From the many accidents to which goods are liable from the first moment of their shipment, it has always been desirable that when a Broker or Agent has received an order to effect an insurance, it should be completed without the slightest delay, and therefore it has, for a very long time, been the practice for those persons who undertake to answer for such risks, to assemble at some place where they may be readily found. It is said, that formerly an office for this purpose was opened at the West End of the Royal Exchange, but in what part of the building is not stated. A Coffee-house in Lombard-street, called Lloyd's, as supposed, from its first proprietor, was many years ago the underwriters' principal place of resort, but it not being found sufficiently commodious, for the increased number of persons frequenting it, the business was removed to a house in Pope's Head Alley, which was named New Lloyd's, and in 1773 it was again transferred to the Rooms, now known throughout the world, as Lloyd's Coffee House.

In the present constitution of this concern, the Coffee House properly so called, is chiefly frequented by Captains trading to the Leeward Islands, and their connexions. In this Room, for the accommodation of the public, all information relative to shipping, that is obtained from the agents of the establishment, with the addition of the first private intelligence, is regularly entered in a book kept for that purpose, and a variety of the ordinary routine of shipping business is transacted at this place.

The Subscription Room generally known by the name of LLOYD'S, is entirely distinct from the Coffee House, although by common usage, it is very frequently referred to by that appellation, and as such it is adopted in many of these pages.

The management of the extensive business of this department, is confided to a Committee of Nine Members, elected from the general body of the Proprietors, from whose regulations the following extracts are made.

With respect to the subscribers, none but Merchants, Bankers, Traders, Underwriters, or Insurance Brokers, are eligible to be admitted.

Every person underwriting, or transacting any other business in his own name, or empowering another to act for him, is required to become a Subscriber.

Parties not having attained the age of twenty-one years, are ineligible as Subscribers.

Any person desirous of becoming a subscriber, must procure a recommendation to the Committee, signed by six subscribers, who are to attend the Committee, if called upon, to answer any questions that may be put to them relative to the party proposed.

After the names have been placed on the board, for at least a week before the election takes place, the proposed subscribers are ballotted for by the Committee, in the first week of every month.

On the proposed subscriber being elected, he is required to pay an admission fee of Twenty-five Pounds, and an annual contribution of Four Guineas; with the same sums for every clerk which the subscriber may require.

Persons discontinuing their subscriptions, have their privileges, and those of their substitutes, suspended during the suspension of their subscriptions; but they are entitled to all the privileges of that character at any time, upon recommencing their annual subscription.

Of the members of the Committee, three go out annually, by rotation, on the 31st of December in each year; those Members go out first who are elected by the lowest number of votes, and so on each year in succession.

Members who go out by rotation, may be re-elected after the expiration of one year, except in the case of the Chairman, who, on going out by rotation, is not disqualified from being re-elected the same year.

No Subscriber is eligible to a seat in the Committee, until he has been a Subscriber of at least three years' standing, and unless elected by at least one hundred votes.

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The General Meetings are held half-yearly in March and September, for receiving the reports, and examining the Accounts of the Committee, relative to the state of the funds placed under their care.

It may readily be supposed, from the vast number of Insurances which have been effected at this place, that almost every possible variation in the modes of settling losses and returns, and the other principal results of Marine Insurances, must have repeatedly undergone the most serious discussion and consideration; and as the members of this community have always been distinguished for the just and liberal policy of their conduct, the Courts of Law have frequently been guided in their decisions by what is termed the practice of Lloyd's; while the departments of government have often acknowledged the importance of the information, which the Committee, from their Agents, have been enabled to communicate.

As an exposition of the principles upon which the business of Lloyd's is conducted, we shall make the following extracts from the report in April, 1810, of the select committee of the House of Commons, which was appointed to consider of the Act of the Sixth of George I. and of the state and means of effecting Marine Insurances, in consequence of a petition being presented to the House, for the purpose of establishing a Third Chartered Company.

It may be premised for the information of those who are quite unacquainted with this business, that when a Broker receives an order to effect an Insurance, it is usual for him to take the particulars upon a slip of paper, and show them to those underwriters with whom he is in the habit of doing business; if they agree to take the risk, either at a premium to which the Broker is limited, or at one upon which they agree, the Broker writes their names upon this slip, and when he has obtained all that are requisite, or that he can procure, if he cannot then effect the whole of the Insurance, he copies the particulars upon a stamped Policy, and procures the underwriters' signatures as soon after as possible.

When a loss is required to be settled, the papers that may be demanded in proof, must necessarily depend upon the nature of the loss, and the property upon which the insurance was made.

The Bills of lading, Invoices, and, frequently, in disputed accounts, the letters of the Agent or Principal of the Assured, relative to the shipment of the Goods, are required to be produced, as also the Captain's protest or solemn statement of the misfortune, with such certificate, &c, of the amount of the damage as may be able to be procured; but in cases of total loss by foundering at sea, capture, &c, it may unhappily be out of all question that they cannot be obtained; when no intelligence has been received of a vessel, for the period of a twelve month, it is concluded she has foundered, and that all on board have perished, and the Insurers cannot longer defer settlement. By the class of respectable underwriters, more dependence is, however, placed upon the correctness of the Broker's statements, if they are persons with whom they have long done business, and whose integrity they have no reason to doubt, than upon the details which are necessarily required by the Insurance Offices.

Upon the settlement of any return or loss, the Insurer cancels his name upon the risque, and endorses it upon the Policy, under a statement of the account upon which the allowance is made; and when the settlement is for a loss, it is made payable at the end of a month.

Of the facility with which Insurances, to almost an unlimited amount may be effected at Lloyd's, at reasonable premiums considering the nature of the risks, almost every Person examined bore decided testimony. In particular, one Gentleman, stated the circumstance of his house having effected £631,100 upon one vessel, the Diana Frigate; and another, that he had effected an Insurance on £50,000 given to him in the morning after the business was over, which he finished before three o'clock of the same day, to the astonishment of his principal, who exclaimed that it would have taken him a week to have executed it at Amsterdam.

It was stated, as may necessarily be supposed, that some persons who frequent the Coffee House, are not considered sufficiently responsible, and that to procure the signatures of those who are so judged, a greater premium must sometimes be given; but in general, from the competition and the less regard which the underwriters have to the risk incurred, the premiums at Lloyd's are lower than those demanded by either of the offices. Some instances of the reverse

have been known, and a premium of 18 Guineas has been taken by the chartered Companies, when 30 Guineas have been required by private underwriters.

Of the risks accepted at Lloyd's, many are or would be refused by the offices; one cause was stated to be, in the underwriter acting on his own account, and the acting Directors of the Companies being rendered more cautious, from their being merely Trustees for the other proprietors. To some of the clauses which are occasionally introduced from necessity into the Policy, it is made a rule by the offices never to agree, and therefore Insurances upon these risks can only be effected at Lloyd's. When an indifferent risk is wished to be effected, it is sometimes coupled with a very good one, and it is made, in some sort, a condition with the underwriter, that he shall take a line upon each. The offices would not do them upon these terms.

Another cause for a preference being given to the underwriters of Lloyd's, is the length of credit which they usually give; of which it was stated by a Broker of eminence, that some of the underwriters do not apply for their premiums for two or three years after the Policies have been subscribed. The premiums are not considered due until the end of the year in which the Insurances are effected, and it generally requires three or four months, before any settlement either is or can be made.

Of the responsibility of the principal underwriters at Lloyd's, much unquestionable evidence was given. One gentleman stated, that in the last seven years, he had effected insurances to the amount of nearly five millions of money, of the losses upon which he had recovered the full sum, with the exception of £799, but upon this deficiency there were further dividends to be received. By another it was also stated, that in the course of nine year's extensive practice, the only deficiency he experienced, was in the sum of £49 3*s* which was further reduced by a dividend. Mr. —— bore similar testimony to the safety of insurances effected with private underwriters. In the year preceding the investigation, the business he had transacted with Lloyd's, amounted to £510,000, and in the course of 24 years' practice, the whole of his bad debts, with underwriters, was only £860, without his having had a single litigation, except upon one policy and that to a small amount.

In reporting upon the evidence, it was stated by the Committee, that from the returns of the Policy Stamps used in this country, the amount insured in the preceding year was .. £162.538.900.

That the Insurances of the Royal Exchange Co: amounted to.....	£3.905.755	
Of the London Assurance.....	2.250.000	6.155.755
		156.383.145
That the Insurances of the other parts of the Kingdom amounted to.....		22.060.500
Which left for London or Lloyd's Coffee-House.....		£134.322.645

It was however stated by the Committee, that the sum which ought to have been insured, according to the commerce of the country, and to foreign adventures probably insurable in England, was above £320.000.000, so that only about half was insured, which was attributed to the want of more Insurance Companies, or of one where more facility and responsibility would be afforded than by the present system. The opinion of the House of Commons was different from that of the Committee, and they rejected the proposed bill.

The next subject which engaged attention, was the manner in which private underwriters settled or adjusted losses, and every one concurred in opinion of their great liberality. In many instances of such mistakes in the wording of the Policies, as would completely have exonerated the underwriters, they have either paid the sums in full, or have divided the loss with the assured, and have paid them 50 per Cent. In a case, mentioned by a Gentleman, of a vessel of his which was lost in the harbour of Bombay, after the underwriters had paid him £26 15 8 per Cent upon £26,000, they gave him 5 per Cent, or £1,300, as a present to the captain for his exertions. In an instance of a Baltic Fleet running into the harbour of Copenhagen, when our forces were there, the insurances were entirely vitiated, and the underwriters might have retained the premium without being answerable for any future loss; but in consideration of a small advance of premium, they were liberal enough not to let so large a sum as seventy or eighty thousand pounds fall upon one man, and they took the risk

upon themselves, and suffered it to be no abandonment of the voyage.

With regard to the disposition of the underwriters to avoid giving the insured any unnecessary trouble, the broker before referred to deposed, that in 1809, when the Insurances to the Continent became very dangerous, he settled with them an amount of about £110.000, without having any protest ; it was settled only upon letters of the different Merchants, and from the confidence which the underwriters placed in him. It was further stated, that when a Broker represented the loss to be fair, honourable and just, the larger portion of the underwriters required no further satisfaction.

Instances were shown of underwriters, who, having disputed a settlement upon some point of law which has been determined in their favor, have afterwards paid the full amount of the contested loss. Some cases may perhaps be quoted, in which the claims of the assured may have been of undoubted equity, and have been brought forward by respectable individuals, which for want of entire legal proof could not be maintained, and upon this ground some underwriters may have refused to pay ; but such are of very rare occurrence ; for if no legal decision has determined the line of conduct to be pursued, disputed points are generally either submitted to arbitration, or settled at once with that signal generosity, which English underwriters have always evinced.

In conclusion of this subject it may be observed, that it is not only as a body of persons, upon whom, in a great measure, the commercial maritime prosperity of this country has depended, that the subscribers to Lloyd's have been distinguished, but under their management, and principally from their funds collectively and individually, subscriptions of an astonishing magnitude have frequently been raised, for rewarding those who distinguished themselves in our late sanguinary conflicts, for providing some subsistence for the relatives of those who fell in battle, and also for alleviating the miseries of the inhabitants of those districts which had been ravaged by war, or had suffered from the other awful dispensations of Providence.

OF THE ROYAL EXCHANGE AND LONDON ASSURANCE COMPANIES.

Of the conditions under which these Companies obtained the exclusive privilege, of making Insurances upon the responsibility of Partnership Capitals, some notice has been taken in page 399. Of the manner in which the business is conducted at these Offices, it may be fully sufficient to give a general outline of one of them, as of the Royal Exchange Company.

The control of this Establishment is under a Governor, Deputy-Governor, and 24 Directors, and the business is separated into the Departments, of Insurances from Fire, Life Insurances and Annuities, and Marine Insurances.

In the latter department, when a person wishes to have an account opened with the Company, they require him to find two approved persons as securities, for the payment of any amount for which he may wish to obtain credit; but these as well as any variations in their usual terms of doing business, are made the subject of specific agreement.

Upon making an application to effect an Insurance, the particulars of the risk are given in upon a slip, and, if it is not one to which the Company, acting by one of the Directors or the Secretary, do not object, the rate of the premium is settled and paid, with the expense of the Policy Stamp, unless the person has opened an account: in a week or ten days afterwards the Policy may be obtained, but in the intermediate time no acknowledgment is given.

When Brokers have Accounts opened with the Company, in addition to the usual allowance upon the premiums which are made at Lloyd's Coffee House, they have very liberal discounts allowed

according to the periods within which the payments are made. When the credit of a twelvemonth is taken, the discount upon the balance of the Account, is rather less than what is allowed at Lloyd's. When there is a return of premium as for convoy, &c. the same rate of deduction is made from the return, as was allowed upon the premium.

In case of a loss, the necessary documents which are required to be very complete, are sent to the office on or before Saturday; and they are generally taken into consideration on the following Wednesday. If the claim is admitted, the amount may be obtained on the ensuing Monday, without any deduction of the premiums which may be owing to the Company, unless upon such Insurances as may be effected in the Broker's own name.

In the settlement of average losses, the Company is guided by principles differing in many minor particulars, from those which are acted upon at Lloyd's—one of the gentlemen in their employment officiates as their accountant, and all averages are settled by the Company from his statements—some charges which are admitted in the Coffee-House are rejected by the Royal, while a greater proportion of others is sometimes allowed; therefore although there are frequently deductions in the claims, it sometimes occurs that more is paid than is demanded, in consequence, generally, of the Company refusing to admit the principle of salvage statements of Losses, when they can be made up as particular averages. As is usual with underwriters, disputed accounts are more commonly submitted to a reference, than made the subject of a suit at law.

In the examination of the different members of Lloyd's, it was frequently stated, that independent of established regulations in the settlements of losses, the Committees of the Chartered Companies, by acting as Trustees for the general Body of Proprietors, are sometimes obliged to reject their admission, while the same losses with the same documents will pass without the least difficulty at the Coffee House, from the confidence, which the underwriters place in the representations of the Brokers, supplying any deficiency in the legal proof; the Directors of the Companies being compelled to act upon different principles, and to decide only upon the documents laid before them; when these are complete,

the adjustment is made without the least trouble, and the amount, as before remarked, is obtained almost immediately.

Among other circumstances that were specified, as imposing restraints upon Brokers from doing business with the Companies, independent of the fulness of proof they require for losses, and sometimes even for settlements of returns, with the higher rate of premium which they generally demand, one in particular was named, of the limited amounts which the Companies would risk; it was considered that they would not take, at the most, more than £10.000 upon one Policy, but by both the principal Clerks belonging to these Offices, it was declared that upon single Ships as high as £30.000 had been insured, and that upon Ship or Ships, they had gone as far as £50.000 upon one Policy.

The principal differences in the Policies of the Companies, and those of private Insurers, are to be found in the memorandums as given in page 437; the Policies have the Common Seals of the Companies affixed, and they are signed on behalf of the Governors and Directors, by the Secretary or Accomptant.

MUTUAL INSURANCES.

The legislative prohibitions to persons engaging joint Capitals in risks of Marine Insurances, do not extend to what are termed mutual Insurances, or to an association of persons mutually insuring each other's property, without the payment of any premium.

In the north of England, there are many clubs of this nature; in London from the great facility of procuring Insurances, there are not so many. The principal are, the General Shipping Assurance, the Friendly Assurance, and the British Assurance. These Insurances are exclusively confined to ships, and commencing on any day of business, the longest period each can continue, is 12 months. No premium is paid and no immediate expense attends the Insurance, except the amount of the Policy-duty, charges of survey, &c. but during the time for which the Policy extends, the party insured is liable for his proportion of all the losses which occur within that period.

There are several trifling differences in the constituent principles of these associations, but upon the more material points they nearly coincide, and to give a general account of one of them, as the British Association, will be sufficient to explain the whole.

The person insuring, values his vessel at what he considers it is worth, and offers to insure with the Company any sum he states, that is not less than £200 nor above £2000, reckoning in even hundreds.

This being accepted by the Committee, on the part of the association, a Policy is made out, in which the principal difference from the general Policies at Lloyd's consists, in the rate of average for which the ship is warranted free, being 5 per Cent, on the gross amount; and the assured being protected against a loss from his ship running another ship down, and also against receiving or doing any other damage.

In the event of a total loss, the assured receives the amount which he has insured; but when an average loss occurs, the vessel is valued at £9 per Ton, and if the loss amounts to 5 per Cent upon this valuation, it comes within the risk of the Insurance. One peculiar effect of this regulation is, the prevention of vessels of an inferior value from receiving the same advantages as vessels of a superior class; and another is, to guard against the Association being made liable for small damages, by the owner affixing a small value to his vessel.

Thus, if two vessels, each of 300 tons burthen, be insured for £1000 each, and the one be valued at £4000, and the other at £2000, and each receive damage to the amount of £150. The value of each vessel is taken at £2700, upon which £150 is more than 5 per Cent, and therefore the loss is admitted for contribution; the owner of the vessel valued at £4000 will receive from this Club one-fourth of his loss, for £1000 out of £4000, that is, he will receive £37 10, but the owner of the vessel valued at £2000 will receive only £55 11 1, being 10-27ths of his loss, for £1000 out of £2700, which is considered as the proper value. At the first view, it may appear that the less the ship is valued at, the more the owner would thus receive; but this may not be the case, for the remainder of the £4000 may be insured elsewhere, whence the Assured may recover his full loss; but if the vessel valued at £2000 is only insured at another place for the other £1000, and the insurers act upon either the same or similar principles, a portion of the loss must be borne by the assured, it being considered that he is his own insurer for the £700; and if it should be found that he has insured on the whole more than what he values his vessel at, it would be a breach of one of the articles of the Insurance, which would vacate his Policy, or lay him at the mercy of the Association.

Lists are made out at stated periods, of all the losses, averages, &c. which have been admitted as claims since the last settlement, and having, from the books, an account of the sums insured on the day of the accident, &c, these losses are distributed at average rates per thousand, to each person's account, according to the amount of his Insurances.

The following is the form of an extract from one of these accounts.

Ship Sicily, *Capt. Cupper, Mr. Thomas Wright, Owner, in consequence of cutting from an Anchor and Cable, and for damage received off Gibraltar, 26 July, 1818*.....£129 12 2
Contributing Capital £ 115.400 *at* £ 1 2 6 *per m*. 129 16 6

This determines the amount which the whole Club has to pay and it forms an item in each Account thus :

Ship Arethusa liable to contribute on the amount of her Insurance.
Average of Sicily, 26 July, 1818, £ 1800 at
£1 2 6 per m £2 0 6

In the evidence of the Secretary to the Friendly Assurance, before the Committee of the House of Commons, it was stated that in the accounts made up for the preceding year, 1809, the amount of losses each insurer had to bear, was about one and a quarter per Cent, while at Lloyd's the rate of premium for the twelve months would have been nine per Cent, besides two per Cent for the risk of damage that might be done to other ships.

The Secretary to the Union Mutual Assurance Company, deposed, that the amount of the losses upon about one hundred vessels during the same period, was estimated to amount to $5\frac{1}{2}$ per Cent, but that upon some of the risks from 18 to 20 per Cent would have been paid at Lloyd's ; a portion of these advantages may however be considered to arise, from the clubs excluding from their Insurances, all vessels of an inferior description.

OF THE CALCULATIONS BELONGING TO MARINE INSURANCES.

Between the Assured and Underwriters, all accounts are settled by per Centage rates, and therefore, if in the first instance there is any other mode of calculation adopted, it afterwards requires to be distributed by a per Centage; in which case, no lower sum than 1 *d* being used, and the underwriters giving all trifling advantages in favor of the assured, it often occurs in the settlements of losses and returns, that the amount carried to Account, exceeds, in a small degree, the amount that could otherwise be claimed.

In one of the preceding sections of this subject, page 408, the allowances to Brokers, and the charges made by them, and by mercantile houses doing business upon Commission, have been detailed; and in pages 409 to 412 are shown the charges and allowances for stamped Policies; on the latter it may be observed, that Brokers in London usually add 5 per Cent, and those in the Country 10 per Cent, to the amount of the duty, as a compensation for the advance of money, or the trouble of drawing up the Policy, &c.; but when the merchant effects the Insurance without employing a Broker, it is not very usual for him to make this charge to his correspondent or principal.

When a calculation of the premium is made by a Broker for the entry in his books, the underwriter receiving credit for what is termed the Underwriter's Premium, the separation of the whole Premium into this and the Brokerage or Commission, is then made, but in any other case it is never noticed.

For the more ready performance of some of the calculations, it is requisite to have at least a slight knowledge of decimals, for which see the general principles of Arithmetic, as explained in Vol. I.

Example 1.

To find the amount of the Premium &c., upon £ 461, at $2\frac{1}{2}$ Guineas per Cent, and at 7 Guineas per Cent.

	£	s		
$\frac{1}{2}$....	2	10		
		4		
	10	0	for 400	
$\frac{1}{5}$....	1	5	— 50	
$\frac{1}{10}$...		5	— 10	
		6	— 1	
$\frac{1}{20}$...	11	10	6	Underwriter's Premium.
		11	6	Brokerage.
	12	2	0	Whole Premium.
	1	5	0	Policy at 5 *s*.
	2	6	1	Agent's Commission.
£	15	13	1	Whole Charge.

(or)

	£	s	d
$\frac{1}{40}$....461	0	0	
Und. Pr...	11	10	6
Brokerage .		11	6
	12	2	0
	1	5	0
	2	6	1
£	15	13	1

	£		
	4,61		
	7		
$\frac{1}{20}$....32,27		for 7 £	
	1,6135	for 7 *s*.	
£	33,8835	= £ 33 17 8	Premium.
s.	17,670	1 5 0	Policy.
d.	8,040	2 6 1	Commission.
		£ 37 8 9	Whole Charge.

In the second method of the first calculation, for $2\frac{1}{2}$ per Cent we take 1-40th, and, in both parts, what the underwriter receives out of the premium is first found, and the whole premium is made up by the addition of the Brokerage of 5 per Cent, or 1-20th. If the rate of the premium had been in pounds per Cent, the £ 11 10 6 would have been the whole premium, and the 11 *s* 6 *d* or the brokerage, being deducted, would have left the amount which the underwriters would then have had to receive.

In the second calculation, cutting off the two right hand figures from the £461, gives the amount at 1 per Cent in a decimal expression, and no distinction is here made for the Brokerage.

Example 2.

To find the net proceeds of an average loss upon £ 867, settled at £ 17 12 5 per Cent.

	£	s.	d.	
½....	17	12	5	
			8	
	140	19	4	for £ 800
⅕....	8	16	2½	— 50
⅕....½....	1	15	3–	— 10
		17	7½	— 5
		7	0½	— 2
£	152	15	5	Amount of the loss.
		15	3	Brokerage ½ per Cent.
	152	0	2	
	3	1	1	Agent's Comm. 2 per Cent.
£	148	19	1	Net Proceeds.

(or)

	£		
½....	8,67		
	17		
	147,39	for 17	£
⅕...	4,335	— 10	*s.*
⅙...	.867	— 2	*s.*
¼...	.144	— 4	*d.*
	.036	— 1	*d.*
£	152.772 =	£ 152 15 5	Amount of the loss.

	£	s.	d.				
Brokerage....	–	15	3				
Commission...	3	1	1	....	3	16	4 Charges.
				£	148	19	1 Net Amount.

Example 3.

To find the amount of the return for short Interest on Tons 27 11 3 of Hemp, valued at £60 per Ton, included in an Insurance on £3600 at 2 guineas per Cent.

Interest insured ..	60 Tons .. at £60 per Ton ..	£3600	0 0
Shipped ..	32 Tons 8 Cwt. 1 qr. „ ..	1944	15 0
	Short Interest	£1655	5 0

	£	*s*	*d*	
½....	1655	5	0	at 1½ per Cent.
	827	12	6	
	£24,82	17	6	
	s 16,57			
	d 6,90			

	£		£ *s* *d*		£	
If	3600	pay	24 16 7	what will	100	pay?
			4 2 9			
	Answer		*s* 13 10			

The return for Short Interest on £3600 at 13*s* 10*d* per Cent, is £24 18 0

* The premium being 2 guineas per Cent, the underwriters receive £2 per Cent, out of which being allowed to retain 10*s* per Cent for Commission, the rate of the return is reduced to £1 10 per Cent.

Example 4.

To find the amount to be insured to include the sum of £842 16, and the charges of insurance; the rate of premium being 50*s* per Cent, and the voyage being foreign.

s.	
50	Premium.
10	Commission.
5	Policy Stamp.

£100 less £3 5, leaves £96 15 *s.*

£	*s.*		£		£	*s.*	
If 96	15	require	100	what will	842	16	require?
1935 *s.*			£		16856*s.*		

1935) 1685600

Answer £872 Amount to be insured.

PROOF.

	£	*s.*	*d.*
Premium on £872 at 50*s* per Cent.....	21	16	0
Policy for £900 at 5 *s*.....	2	5	0
Commission on £872	4	7	2
	28	8	2
Amount to be covered	842	16	0
£872 Insured will cover.....	£871	4	2

Remarks.—The amount to be insured, is that from which the charges of the insurance being deducted, will leave the amount to be covered. The usual charges, besides the premium and policy stamp, are, the Commission of $\frac{1}{2}$ per Cent upon effecting the insurance, and the Commission of 2 per Cent, and Brokerage of $\frac{1}{2}$ per Cent upon recovering a loss; but no Commission is allowed upon the loss, unless the assured is acting as an agent, and the charges attending the loss, are not admitted as Interest, unless they are specified to be such in the Policy of Insurance.

REMARKS ON THE FOLLOWING STATEMENT OF SHORT INTEREST, &c.

The second Policy being a continuation of the first, the two are considered as only one Insurance, and the Interest declared upon both, is 57 Hhds, at the valuation of £25 per Hhd.—Of these, 48 arrive safe, but 7 are deteriorated in value, both by a portion being washed out of the Hhds, and by the remainder being damaged by the sea water.—In such cases, it is usual either to average the weight of the sugars of the same mark, to consider that the damaged sugars would have weighed the same, and then to find their value at the price the others sold for; or to take an average of the amount which the sound sugars have produced, for the estimated value of the sugars washed and spoiled. This value being thus found, and the value of the damaged sugars being also given, the difference is the deterioration upon the gross selling price, from which the same upon the insured value is easily obtained.

To these amounts, which form the average loss, is added the amount of the return for Short Interest at £7 10 per Cent, (viz. £8 8, less 8*s.* and 10*s.* as explained in page 456,) with the return for convoy upon the Interest shipped, deducting the average loss, at the stipulated rate of £4 per Cent.

The amount of these losses and returns is then per-centaged upon the amount insured, and the sum to be recovered upon the two Policies is stated thus.

	£	£	*s.*	*d.*		£	*s.*	*d.*
To Policy No. 418 belongs	1000	at 11	12	10	per Ct.	116	8	4
227.....	500	.....				58	4	2
						£ 174	12	6

Sometimes, when there is a long interval between the time of landing and that of ascertaining the amount of the damage, the underwriters will agree to make the return for convoy, and for short Interest, independent of the damage, and make a further settlement when the amount of the loss is known.

STATEMENT OF SHORT INTEREST AND AVERAGE LOSS UPON SUGARS PER SHIP OR SHIPS FROM JAMAICA TO LONDON.

Insured per Ship or Ships—Policy 418	£ 1000	0	0
Do. ....227.....	500	0	0
Interest insured..	1500	0	0
Arrived per the Montego Bay.			
40 Hhds. ... at £25 per Hhd.	£ 1000	0	0
Arrived per the Barton.			
17 Hhds..... "	425	0	0
Interest shipped..	1425	0	0
Short Interest..	£ 75	0	0

The 5 Hhds. per Montego Bay, if arrived safe, would have sold as per Certificates for..... £ 347 12 6
But being washed and damaged, did sell for 134 1 4
£ 213 11 2

If £347 12 6 lose £213 11 2 then £125 will lose £ 76 15 10

The two Hhds. per Barton, if arrived safe, would have produced..... £ 110 17
But being washed and damaged, produced only..... 22 10
£ 88 7

If £ 110 17 lose £ 88 7 then £ 50 will lose .. £ 39 17 0

Amount of Average Loss... £ 116 12 10
Return for Short Interest on £ 75 at £ 7 10 per Cent 5 12 6
Do. for Convoy on £ 1425 0 0
Less Average Loss... 116 12 10
£ 1308 7 2 at £4 per Cent.. 52 6 8
£174 12 0

If £ 1500 pay £ 174 12 0 what will £ 100 pay ?
Answer £ 11 12 10

REMARKS ON THE FOLLOWING STATEMENT.

It is here supposed that an Insurance was effected, on the 7th of May, of £6000 per Ship or Ships from the Brazils; and, that after a portion of the Interest had arrived by the Diana, two further Insurances were effected to the amount of £10,000, viz. £5000 at Lloyd's, and £5000 with the Royal, *to follow and succeed* the Interest remaining upon the former Policy. By this mode of wording the risk, the underwriters to the Policy No. 315, remain liable for the whole of the residue of the £6000, and to the two other Policies the surplus Interest only is attached. The remaining risk is declared to be on 300 Bags, weighing 1838 Arrobas, (of 32 lb. each) and 5 lb, and the value is declared at 2*s* per lb. To those unacquainted with the practice of Insurances it may be observed, that before the risk terminates, the assured is at as much liberty to value his property, as he would be in a valued Policy; and that if instead of "to follow and succeed," the phrase used had been "in continuation," the remaining Interest upon the first Insurance would have been united with the others, as in the statement in the preceding page, and the whole £ 13445 17 8 would have borne, according to the respective amounts, a proportionate amount of the contribution for damage and of the return for over Insurance. The return may be thus stated.

Over Insurance per the Martin.

Insured on Policy No. 482 ...	£5000	0	0
Arrived	1218	2	2
Over Insured	£3781	17	10

£3781 17 10 at £3 10 per Cent is ...	£132	7	4
If £5000 pay £132 7 4 then £100 will pay £	2	12	11

Over Insured with the Royal Exchange Company as above	£3781	17	10
£3781 17 10 at £4 10 per Cent.... £	170	3	8

STATEMENT OF INTEREST PER SHIP OR SHIPS, FROM THE BRAZILS TO THE UNITED KINGDOM, AND A DISTRIBUTION OF GENERAL AVERAGE LOSS PER THE MARTIN.

Insured 7th May, 1816..Policy No. 315	£ 6000	0	0
Arrived per Diana	2554	2	4
	3445	17	8
The remainder arrived per Martin..... £	3445	17	8
Insured 17th July, 1816, .Policy No. 482 at 4 Guineas per Cent..... £	5000	0	0
Insured 17th July, 1816, with the Royal Exchange Company, at 5 Guineas per Cent....	5000	0	0
Interest arrived per Martin, 300 Bags of Cotton, weighing 1838 Arrobas, and 5 lb. valued at 2*s* per lb. say 58821 lb. at 2*s* ..... £	5882	2	0

Amount attached to Policy No. 315	£ 3445	17	8	
482..1218	2	2		
Royal Exchange Company.....1218	2	2		
			£ 5882	2 0

Distribution of a general average loss, occasioned by the cutting away of the anchor, &c. of the Martin, for the preservation of the vessel and cargo.

Loss charged as per Account, viz,			
On 300 Bags of Cotton, valued at £ 15 per Bag,			
Say on £ 4500 at £ 1 6 7 per Cent £	59	16	3
Making out this statement	1	1	0
£	60	17	3

£		£	*s.*	*d.*		£	*s.*	*d.*		£	*s.*	*d.*	
If 5882	pay	60	17	3	then	3445	17	8	will pay	35	13	1	Policy No. 315.
						1218	2	2	will pay	12	12	1	Policy No. 482.
						1218	2	2	will pay	12	12	1	Royal Exchange
									£	60	17	3	

£		£	*s.*	*d.*		£		£	*s.*	*d.*	
If 6000	pay	35	13	1	then	100	will pay	0	11	11	Policy for No. 315.
5000	pay	12	12	1	then	100	will pay	0	5	1	Policy .. No, 482.

EXPLANATION AND CALCULATION OF THE FOLLOWING STATEMENT.

The goods included in this Insurance, being valued at £1450, and their invoice valuation, independent of charges, being only £1370 13 2, it is necessary to find a proportionate insured value of the damaged package.

The goods being sold at Gibraltar, their value is given in Hard or Spanish Dollars, each of 12 reals, the real containing 16 quarts.

In place of using these Dollars, &c, in stating the proportion to find the amount which the underwriters have to bear, it is more general to estimate the value in sterling money; but either method produces the same result. The proportion is thus calculated.

D.	r.		D.	r.	qts.		£	s	d
518	3	——	129	6	12	——	104	6	6
6219	reals.		1554	reals.			2086	*s*	
99504	qts.		24876	qts.			25038	*d*	
							24876		

99504) 622845288

Answer *d* 6249 = £26 1 8

To this product is added, the amount of the extraordinary expenses immediately resulting from the loss, with the postages of the documents relating to it, and the sum is the amount of the particular average; besides which, the underwriters have to pay the proportion of a general average loss, in the statement of which it appears the goods were valued at £1300. The whole sum being determined, it is distributed upon the Policy, and the rate is found to be £2 15 10, which makes upon the whole 6 *d* more than the amount of the loss.

STATEMENT OF PARTICULAR AVERAGE ON MANUFACTURED GOODS, EX BRITANNIA, CAPTAIN ROBERTS, LONDON TO GIBRALTAR.

16 Packages....Cost per Invoice..... £ 1370 13 2
No. 1 to 16.
Valued at and insured in ..... £ 1450 0 0
Cost of 1 Case damaged...No. 7 ...£ 98 12 4

£	s.	d.		£		£	s.	d.	
If 1370	13	2	require	1450	what will	98	12	4	require?

Answer £ 104 6 6 insured value of Package damaged.

The above Package, if it had arrived sound would have produced as per Survey, viz.

	H.	D.	r.	q.
57 Doz. 7 Pieces, at 9 Hard Dollars, per dozen .	518	3	0	
But being damaged yielded only	388	8	4	
Loss by damage.....H.D.	129	6	12	

D.	r.		D.	r.	q.		£	s.	d.	
If 518	3	lose	129	6	12	what should	104	6	6	lose?

Answer:..... £ 26 1 8
Extra Charges, as per Acct, H. D 49 7 3, at 47¼ *d* 9 15 3
Postages..... 14 2
Amount of particular Average. 36 11 1

Proportion of a general Average per Britannia on £ 1300 at 6 *s.* per Cent..... 3 18 0
£ 40 9 1

£		£	s.	d.		£	
If 1450	pay	40	9	1	what will	100	pay?

Answer £ 2 15 10.

REMARKS ON THE FOLLOWING STATEMENT OF PARTICULAR AVERAGE.

The Six Cases of Linen, forming the Lot out of which the 2 Cases have been damaged, are supposed to have been included in an Insurance upon £1850, on goods, generally, or without any valuation of those contained in this statement; in consequence of which, the covered value is required to be found, in order to determine the proportionate similar values of the damaged articles, which are thus calculated at £13 5 0 for the Diaper, and £89 6 7 for the Damask.

The next part of the statement appreciates the rate of the deterioration, which is effected by working this question;

If 525,000 reis lose 456,000 reis, what will £100 lose?

456

525) 45600

Answer £86 18 8

This being found, the amount of the covered cost of the damaged Pieces, is calculated at this rate; to the product are added the extra charges attending the damage, and the whole is distributed upon the sum insured, at £5 3 5 per Cent.

If the Commission had been charged upon the £790 5 the covered amount would have been the same.

Contrary to one of the remarks in page 436, this loss at Rio Janeiro is settled as a particular average, and not as a salvage loss; the latter is getting out of practice in the Brazil Trade, though until lately it was the favorite mode of settlement.

Particular Average on No. 101 and 106, M. D. 2 Cases, Table Linen, shipped in the Prosperity, Capt. Mollet, for Rio Janeiro, in Oct. 1817.

Whole Covered Cost.

		£	s.	d.	£	s.	d.
101	£56 8 0						
102	57 4 0						
103	75 18 0						
104	96 0 6	.....			785	17	5
105	113 5 3	Shipping.....			1	18	0
106	178 1 8	Freight, &c...			2	6	7
107	209 0 0	Bills of Lading			0	3	0
				£	790	5	0

Premium 35 s, 5 s, 10 s ..... Insurance at 50 s is covered by.... 810 10 3
. Commission 2½ per Cent.... 20 5 3

£ 830 15 6

Cost of Damage.

Damaged { Part of No. 101. and of 106.

No. 101 contained 9 Pieces Diaper, of which 2 were damaged.
The 9 Pieces cost £ 56 8 0

If £ 785 17 5 require £ 830 15 6, £ 56 8 0 will require £ 59 12 5
2—9 ths thereof.... £ 13 5 0

No. 106 contained 18 Pieces of Damask, of which 8 Pieces were damaged, viz.

	£	s.	d.
4 ..... 92½ Yds,..... 9 s	41	12	6
4 ..... 89½ Yds,..... 9 s 6 d	42	10	3
	84	2	9
Rope and Case....	0	7	3
	£ 84	10	0

If £ 785 17 5 require £ 830 15 6, £ 84 10 will require 89 6 7

Covered Cost of damaged Interest..... £ 102 11 7

Rate of Damage.

The above 10 Pieces would have sold as per Acct. for Rs. 525·000
did sell for..... 68·600
456·400

Deterioration £ 86 18 8 per Cent.

Loss

£ 102 11 7 at £ 86 18 8 per Cent..... 89 3 5

Extra Charges.. { 9.600 reis, as per Accounts, at 72*d*... 2 17 7
Surveyors at Rio,..... 2 2 0
Statements and Postages 1 10 0

£ 95 13 0

on £ 1850 is £ 5 3 5 per Cent.

REMARKS ON THE FOLLOWING STATEMENTS OF GENERAL AVERAGES.

In these statements, the total of the disbursements is expressed in the first column, and the distribution of the different sums is made in the columns on the right. In the first statement, the remuneration paid to the men who assisted in preserving the vessel and cargo, with the agency and other expenses, is brought into a general average, as are also the value of the Barley thrown overboard, and the amount of the freight lost by the Jettison. In estimating the worth of the Barley thus destroyed, it is taken at the amount at which it would have sold if it had arrived safe, deducting the amount of the freight, and the expenses which would have attended the sale. The statement is then completed, by distributing the amount of the general average, according to the amounts of the ship, cargo, and freight, from the latter of which, the amount of the wages is deducted, as they never form a contributory Interest.

In the second statement, the greater part of the loss belongs to the Insurers and to the Owners of the Vessel; as is customary at Lloyd's, one-third is deducted for the difference in value between the new material and the old, and this is made, not only upon the article restored, but also upon the amount of the Bills for Labour, but, in mutual Assurances, this latter is not a usual practice; the amount of this deduction and of many of the expenses, and all the advances are borne by the owners. The general Contribution consists in two thirds of the value of the Hawser and Buoy, deducting the value of the increase in weight, and charging it to the owner's account, with a portion of the Anchorsmith's Bill, and the notarial charges.

From the amount placed to the account of the ship, is subtracted the produce of the old material, and the amounts are then distributed.

From the value at which the ship is estimated and insured, is taken the amount of the deterioration, and the remainder forms the contributing amount towards the general average loss, of £81 14 6. In this statement, the freight does not form a separate Interest. The amount of the general average to be borne by the ship, forms an addition to the particular loss, and the whole is distributed amongst the Insurers of the vessel. In making out the return for convoy, no calculation is made upon the particular average loss.

Statement of General Average on the Speedwell, Robert Simpson, Master, from Yarmouth to London, in consequence of getting aground near Harwich, and having assistance of the Crews of two Fishing Smacks, by which and by throwing part of the Cargo overboard, she was got off, and brought into Harwich.

Total.	Disbursements.	General.	Ship.	Owners.
s. d.		£ s. d.	£ s. d.	£ s. d.
14 0	John Morris and James Burton of the Smacks, Thomas and Daniel, for assisting the Brig off the ground, after lightening her of part of the cargo, and bringing her into Harwich as per Agreement	60 0 0		
	Cash paid Captain Simpson for ship's use	.....	.....	5 0 0
	Notarial Charges	2 2 0		
	Hull and Sansum for agency, &c	2 2 0		
	Postage, Stamps, &c	0 10 0		
1 0	John Moffatt....Shipwright ..... £3 10 0 less 1-3rd.. 1 3 4	.....	2 6 8	1 3 4
0 0	Charles Voy for transporting to and from the way..	.....	1 0 0	
12 10	Value of Barley thrown overboard, viz. Shipped 690 qrs. Landed 509,3-8ths. Thrown overboard 180,5-8ths at 31s..£279 19 4 deduct freight 2s. 6d. per qr. 22 11 6 lighterage and expenses 4 15 0 27 6 6	252 12 10		
11 6	Freight of 180,5-8ths qrs. Barley thrown overboard	22 11 6		
8 8 4		339 18 4	3 6 8	6 3 4
1 0	Statement	1 1 0		
9 4	£	340 19 4		
	Ship valued at ..... £800 pays 148 13 4	.....	148 13 4	
	Cargo, Barley, viz. £ s. d. Qrs. 509 3/8 arrived 711 18 3; 180 5/8 Jettison 252 12 10 964 11 1..179 4 10			
	Freight, viz. £ s. d. Qrs. 509 3/8 arrived 63 13 6; 180 5/8 Jettison 22 11 6; 86 5 0; Less Wages 16 5 0 70 0 0 13 0 2			
	at £18 11 8 per cent £1834 11 1 is 340 18 4	Ship £	152 0 0	
	If £800 pay £152 then £100 will pay £19 0 0		Owners £	6 3 4

Statement of General and Particular Average on the Diana, Capt. John Smithers from the Southern Whale Fishery, to London, in consequence of slipping hawser at Rio Janeiro, to prevent her getting ashore, and sustaining damage b being run foul of near Dungeness, as per protest.

Total.	Disbursements,	General.	Ship.	Owners
£ s. d.		£ s. d.	£ s. d.	£ s. d.
	John and George Hammond for disbursement, viz.			
	A new Anchor, anchor stock, &c..... 10 10 0	.....	53 14 6	
	less 1-3rd .. 3 10 0	.....	7 0 0	3 10
	Porters and Horses with do. to the Boat.....	.....	3 4 0	
	Boat hire, taking same on board as per award...	.....	36 15 0	
152 13 8	Commission and registrar's fees per award.....	.....	9 10 0	
	Tavern expenses during settlement.....	.....	1 12 0	
	Cash paid Captain Smithers.....	.....	.....	10 0
	Making Protest.....	.....	0 7 6	
	Cash advanced the Pilot.....	.....	.....	14 14
	Provisions, Stamps and Postage.....	.....	0 7 0	7 15
	Commission, &c.....	.....	2 11 9	1 12
	Ropemaker's bill for cordage, £ s. d.			
	cwt. 31 3 11 at 96s. 152 17 5			
	Hooks, Thimbles, &c... 3 5 9			
	Old Canvass for parsling, Tar, Tallow, &c. 2 15 0	.....	1 0 0	
	Labour on the whole ... 11 10 0			
	170 8 2			
	less 1-3rd .. 56 16 0	.....	113 12 2	56 16
297 2 2	cwt. qr.			
	10 Inch hawser and Buoy rope. 25 3			
	deduct difference in weight the one slipt being only 2 Inches..... 4 3	.....	.....	22 16
	21 0 at 96s. 100 16 0			
	A Buoy..... 2 2 0			
	102 18 0			
	less 1-3rd .. 34 6 0	68 12 0		34 6
449 15 10	Carried forwards	68 12 0	229 13 11	151 9 1

Total.			Disbursements,				General.			Ship.			Owners.		
£	s.	d.					£	s.	d.	£	s.	d.	£	s.	d.
149	15	10	.....Brought forwards				68	12	0	229	13	11	151	9	11
65	10	0	Richard Mount, .. Anchorsmith				10	15	0	54	15	0			
156	4	5	Curling, Cox & Co. Shipwrights.....			345	18	11	.....		10	5	6		
81	10	6	N. Cheminant, .. Mast maker.....			81	10	6							
23	1	10	Hayman & Co. .. Blacksmiths			23	1	10							
27	4	5	John Mews, ... Plumber			9	18	10	.....		.....		17	5	7
9	7	5	John Wilson, ... Sail maker.....			9	7	5							
1	13	0	Thomas Price, .. Carver.....			1	13	0							
7	15	0	Robert Cressley, .. Painter						.....		.....		7	15	0
						471	10	6							
			less 1-3rd ..			157	3	6	.....		314	7	0	157	3	6
2	7	6	Notarial Charges.....						2	7	6				
5	5	0	Examining documents and stating this account....						.....	....		5	5	0			
29	14	11							81	14	6	614	6	5	333	14	0
			deduct sales of old bowsprit.....	£	10	10	0										
			do. old rigging.....			15	12	6									
43	1	1	do. old iron.....			1	19	4									
			do. old anchor.....			14	19	3	.....			43	1	1			
86	13	10	Ship valued at £ 14000														
			less average			570						571	5	4			
						13430	.. pays.....		48	18	6	48	18	6			
			Cargo.....			9000	.....		32	16	0						
				£		22430	..... £		81	14	6	620	3	10			
			£	£	s.	d.	£										
			If 14000	pay 620	3	10	what will 100 pay?										
							Answer £		4	8	7	per Cent.					
			Amount of the value of Ship as per policies .... £						14000	0	0						
			less particular average						570	0	0						
									13430	0	0						
			£13430 at £3 per cent for convoy is £402 18 0														
			£	£	s.		£										
			If 14000	pay 402	18		what will 100 pay?										
							Answer £ 2 17 6										

REMARKS.

In the transaction to which the following statements belong, it is supposed that the owners of the vessel in question, directed an Insurance to be effected on her and the freight, with a portion of her cargo; valuing the ship at £2250, and insuring her at £2050, insuring the freight at £800, and the goods as interest should appear; and that, shortly afterwards, the owners gave orders to effect another Insurance of £500 upon the cargo, *in continuation* of the former policy, thus making the whole in its effect as one insurance. The vessel was wrecked upon the Florida Reef, and what remained of her and the cargo was sold.

From the statement of the apportionment it appears, that a very heavy salvage was awarded to the parties assisting in preserving the wreck, and that from these and the charges attending the sales, the net proceeds did not yield, on some articles, so much as half the gross amount. The net proceeds are given in Florida Currency, as well as in sterling, at the rate of Exchange of £180 Currency for £100 sterling; the general average loss and expenses are deducted from these remainders, and there is also a deduction for the commission charged at Liverpool. The distribution of the produce of the Nica Wood and Fustic, amongst the different consignees, according to the quantity each had on board, closes the statement.

In settling this loss with the underwriters, upon the different interests and policies, it is first determined what is the salvage loss of the ship, according to the valuation in the policy, and this is proportioned to the amount insured, saying, as the valued amount is to the amount of the loss, so is the sum insured to the amount which the underwriters have to pay upon this account; to this is added the amount of the total loss upon the freight, and this sum being distributed upon the amount insured, makes £99 1 5 per Cent.

In the statement of the Short Interest, &c, the currency value of the amount of the property shipped, as it appeared from the Invoice and Bills of Lading, is converted into sterling at the rate of £ 1 10, Jamaica currency, for £ 100 sterling; this amount is then covered at £ 11 13 per Cent.

viz.	£ 8	8	0	Premium....	on Insurance.
	0	5	0	Policy.....	
	0	10	0	Commission..	
	2	0	0	Commission..	on Loss.
	0	10	0	Brokerage...	
	£ 11	13	0		

and the covered Interest is thus determined to be £ 127 2 2, according to the method of the Example in page 457; the charge of $2\frac{1}{2}$ per Cent for Commission and Brokerage upon the recovery of a loss, being considered to have been insured as a part of the Interest.

The amount of the covered Interest is then subtracted from the amount insured upon the Goods by both Policies, and the return for over Insurance is calculated at £ 7 10 per Cent, the premium being 8 Guineas per Cent, of which the underwriters receive £ 8 and retain 10 *s.* upon making the return.

From the preceding amount of the Interest, the amount apportioned to the owners from the salvage loss is deducted, and the remainder being added to the amount of the return, the sum is distributed upon the £ 1500 insured, at the rate of £ 14 5 2 per Cent.

Britannia, *Lewis*, Jamaica to Liverpool — Goods saved from the Vessel, which

£ s. d.		General.	Ship.	Goods Manufactured.
9 12 0	Protest	9 12 0		
1715 14 0	Salvage awarded }		81 11 9	124 6 4
1103 9 10	Do. do. }			
164 0 0	Cash paid Capt. Lewis.			
239 9 3	Commission		7 2 1	18 19 6
		9 12 0	88 13 10	143 5 10
	Sales		142 1 6	379 9 0
	Net Salvage, exclusive of Charges		53 7 8	236 3 2
	Sterling		29 13 2	131 3 11
	General Average from above £ 9 12 0			
	Sterling 5 6 8			
	Adjustment 5 5 0			
	10 11 8		0 6 6	1 8 11
			29 6 8	129 15 0
	Commission in Liverpool		0 5 10	1 5 11
				128 9 1
	Owners of Ship to receive		29 0 10	
	A. Bowen			128 9 1
	W. Bennett			
	" "			
	" "			
	E. Turnley			
	W. Trower			
	J. and C. Massey			
	M. Bowler			
	Tho. Reed			
	Tho. Platt			
	" "			
	" "			
	£		29 0 10	128 9 1

Apportionment of Charges, and Proceeds of
was wrecked on the Florida Reef.

Coffee.	Ginger.	Cotton.	Nica Wood.	Fustic.	Logwood.
10 0 2	12 14 6	140 2 10	2206 4 5	238 2 8	6 1 2
1 2 3	1 8 3	15 11 5	174 18 10	19 16 10	0 10 1
11 2 5	14 2 9	155 14 3	2381 3 3	257 19 6	6 11 3
22 4 9	28 5 7	311 8 6	3498 16 11	396 17 9	10 2 0
11 2 4	14 2 10	155 14 3	1117 13 8	138 18 3	3 10 9
6 3 6	7 17 2	86 10 1	620 18 8	77 3 6	1 19 3
0 1 4	0 1 9	0 19 1	6 16 8	0 17 0	0 0 5
6 2 2	7 15 5	85 11 0	614 2 0	76 6 6	1 18 10
0 1 3	0 1 7	0 17 1	6 2 10	0 15 4	0 0 5
6 0 11	7 13 10	84 13 11	607 19 2	75 11 2	1 18 5
6 0 11					
.....	.....	.....	.....	8 4 10	
.....	.....	.....	.....	.....	1 18 5
.....	7 13 10				
.....	.....	84 13 11			
.....	.....	.....	161 18 9		
.....	.....	.....	446 0 5		
.....	.....	.....	.....	8 4 10	
.....	.....	.....	.....	25 6 7	
.....	.....	.....	.....	14 14 3	
.....	.....	.....	.....	19 0 8	
6 0 11	7 13 10	84 13 11	607 19 2	75 11 2	1 18 5

STATEMENT OF SALVAGE LOSS, ON THE SHIP BRITANNIA, CHARLES LEWIS, MASTER, FROM JAMAICA TO LONDON.

Insured on Ship £2050		valued at ..	£2250 0 0
Freight 800		Proceeds of ship..	29 0 10
£2850			£2220 19 2
If £2250 lose £2220 19 2 then £2050 loses ..			£2023 10 10
Insured on Freight			800 0 0
			£2823 10 10

£2823 10 10 loss upon £2850 is £99 1 5 per Cent.

STATEMENT OF OVER INSURANCE AND SALVAGE LOSS, &c.

Insured on Goods per Policy No. 87		£1000 0 0
Do. 413		500 0 0
		£1500 0 0
Shipped as per Invoice and Bills of Lading	£157 4 5 Currency.	
or	£112 6 0 Sterling.	
£112 6 0 covered at £11 13 0 per Cent is		127 2 2
	Over Insured	£1372 17 10

£1372 17 10 at £7 10 per Cent £102 19 3
Amount of Interest as above £127 2 2
Deduct net proceeds.

Of Coffee..	£6	0	11		
Fustic..	8	4	10		
Logwood	1	18	5		
				16 4 2	
				....	110 18 0
					£213 17 3

£213 17 3 on £1500 is £14 5 2 per Cent.

REMARKS UPON THE FOLLOWING STATEMENT.

The statement of this average loss is made out upon the principle of a Salvage Loss, as explained in page 436, the net proceeds of the sales at Rio Janeiro being deducted from the insured valuation of the damaged goods, to determine the amount which the underwriters have to make good.

The Bale of Cloths No. 10, and the three Cases of Muslin, being all damaged, the value is set down at the amount for which they are insured, which may be supposed to have been declared in the Policy, similarly to the valuation in the Policy in page 404. Of the three other Bales only some pieces in each are damaged, the values of which are taken from the invoice, and statements are made to determine the Insurance valuations—saying for each, as the invoice amount of the whole Bale is to the valued amount in the Policy, so is the invoice amount of the pieces damaged to the value for which the insurers are liable. Thus for Bale No. 4 the amount in the invoice, of the 10 pieces, is £67 5 0, and they are valued at £73 in the Policy, therefore the proportioned valuation for £53 6 9, the amount of the 8 pieces damaged, is £57 18, which is charged in the account.

The net proceeds of the sales are exchanged from Portuguese to English money at the rate of $71\frac{1}{2}d$ for a milrei or 1000 reis; and to the net or Salvage Loss, are added the expenses for the postage of the documents; then the sum at which the whole of the property was insured being £4080, we say if £4080 lose £757 0 10 what will £100 lose? to which the answer is £18 11 1, for the rate per Cent; and £4080 at this rate, will produce £757 0 2, the amount, in all, which is to be received of the insurers.

Statement of a Particular Average, on 4 Bales and 3 Cases of Goods per the Camilla, Brown, from London to Rio Janeiro.

No.					
4	1 Bale, containing 10 Cases, Cassimere, valued at ..	£ 73	0	0	
	8 Pieces damaged, viz.				
	4 Pieces 82 yards ....at 7 *s.* 8*d*.....	£ 29	14	6	
	4 Pieces 57¼ ..... 8 *s.* 3*d*.....	23	12	3	
		£ 53	6	9	
	If £67 5 0 value £73, then £53 6 9 will value.....				£ 57 18 0
10	1 Bale, containing 10 Pieces, Cloths, all damaged — valued at...				179 0 0
11	1 do. ..... 11 ..... valued at	£ 205	0	0	
	5 Pieces damaged, viz.				
	4 Pieces 68¾ yards at 22 *s.* 6*d*.....£	76	15	7	
	1 ..... 22¾ ..... 17 *s*.....	18	18	3	
		£ 95	13	10	
	If £188 19 1 value £205, then £95 13 10 will value....				103 16 4
13	1 Bale, containing, 11 Pieces, Cloths, valued at ...	£ 202	0	0	
	8 Pieces damaged, viz.				
	2 Pieces 46¾ yards at 22 *s.* 6*d*.....£	52	0	7	
	2 ..... 39½ ..... 19 *s.* 6*d*.....	38	10	3	
	2 ..... 39 ..... 12*s.* 0*d*.....	23	8	0	
	2 ..... 45¾ ..... 8 *s.* 6*d*.....	19	8	10	
		£ 133	7	8	
	If £185 8 7 value £202, then £133 7 8 will value.....				145 6 0
1 to 3	3 Cases containing 615 Pieces, Muslins—all damaged—valued at ...				683 0 0
					£1169 0 4
	Net proceeds, per Account-Sales, 1387.978 reis at 7½*d*.....				413 10 0
	Salvage Loss.....				755 10 4
	Postage of Documents.....				1 10 6
	Divided on £4080 is £18 11 1 per Cent.				£ 757 0 10

EXCHANGES.

Exchange Calculations are those by which to a given Sum in the money of one country, an equal value is found in the money of another, according to a rate of equivalence agreed upon by the parties concerned.

The term Exchange, in its most general acceptation, means any barter of Property; but in a more limited and more mercantile sense, it signifies the transfer of a right to receive a sum of money in one country, according to the tenor of a written order called a Bill of Exchange, in consideration of a sum being received at the place where the Bill is sold.

The principles upon which exchange transactions are founded, may be elucidated by the following statements.

If a person residing at Lisbon has ordered manufactured Goods to be consigned to him from this country, he may have the following modes of making his payments.

In the first place he may purchase and send over either articles of merchandise or a quantity of Bullion, or coin, the produce of whose sales, in this country, will suffice to discharge his debt.

In the second place, he may find a person at Lisbon who has money owing to him in this Country, and he may purchase of this person a Bill of Exchange transferring to him his right to receive so much money as he may want, and this Bill being remitted to his correspondent in London, with an authority for him to receive the amount, he may thus furnish the means of payment for the Goods.

In the third place, he may purchase a Bill drawn upon some other Country than Great Britain, and sending this to London, he may give directions for it to be sold, and to have the proceeds placed to the credit of his account.

These three are the principal ways in which payments could be made directly from Lisbon, but if either should be found inconvenient or unprofitable, he may direct his agent in this Country to draw a Bill upon him for the amount of his demand, who selling it to any person that may wish to make a payment, or receive money in Lisbon, the Consignee will pay the equivalent amount, and thus close the transaction.

Besides these direct negociations between two places, there are others, which can hardly be wound up without the use of Bills of Exchange. As for example, Lisbon imports corn from Hamburgh, and exports wine to London; she either pays for the corn by drawing bills upon London, and sending them to Hamburgh to be sold there, or she directs London to purchase bills in payment of the wine, and to send them to Hamburgh to discharge the debt there owing. In these cases, either Bullion or Coin may be also employed, but it is only seldom that it is used, except in direct transactions, and the same is the case with the consignment of goods, instead of the remittance of bills.

In this consideration of Bills of Exchange, they are supposed to be drawn upon account of debts, which are owing to the persons giving the orders for payment, but in many instances they are made the instruments, either of temporary accommodations, or of speculations upon a probable variation in the courses of Exchange.

When money is very scarce in this country, or when it is much wanted by merchants of well established credit having correspondents abroad who will accept their bills, they are drawn and sold, and thus money for present purposes is obtained, which must be replaced, by making remittances in time to meet their payment; or their correspondents may put themselves in cash, if they require it, by drawing bills upon the original party or his agents, and selling them before the first become due.

When bills are drawn or purchased upon the speculation of a rise or fall in the rate of exchange, the negociations are wound up in the same manner as the preceding; though, where no necessity exists for immediately supplying or procuring a return of the money, the transactions are sometimes extended, through most of the principal towns in Europe.

In exchange transactions they are said to be direct, when the bills which are purchased, are sent for payment to the place upon which they are drawn; and to be indirect, when they are sent to another place to be negociated there; thus if a bill drawn upon a person in Hamburgh, be sent to another person in Hamburgh for the amount to be received by him, this forms, a direct remittance; but if a bill drawn upon Paris be sent to Hamburgh in order that it should be sold, and the produce be received in that place, it forms what is termed an indirect remittance.

Sometimes remittances can be made only in a circuitous manner; as from Dublin to Berlin, the money must be remitted in Bills to this country, hence the amount may be sent to Hamburgh, and from Hamburgh to Prussia. Occasionally, remittances are thus made from the expectation that a greater advantage will attend the circuitous method, than there will be loss in the expenses with which it will be charged. The indirect can be combined with the circuitous remittances, in almost an indefinite variety.

In the consideration of the theory of Exchanges, the principal objects to which the attention is to be directed, are, the absolute value of the money in which the bill is to be paid, and its comparative value with that of the country in which it is bought, as determined by the quantity of fine gold or silver.

In a practical view many other subjects are be regarded; the value of Bullion which the paper or representative money will purchase, if the Bill is not paid for with Cash or Gold and Silver Coins; the time to elapse before the Bill will become due; the laws and Customs which regard Bills of Exchange, and sometimes the comparative values of Bills upon different countries may have a material influence upon the negociation.

Occasionally, it is necessary to know the relations which the weights and measures of one country bear to those of another, as respects either the precious metals, or articles of merchandise, for the purchase of which the remittance may be made.

OF THE MONEY

OF

GREAT BRITAIN.

The money of Account and Exchange consists of Pounds, Shillings, Pence and Farthings.

1 Pound = 20 Shillings, 1 *s* = 12 pence, 1 *d* = 4 farthings.

The late Gold coinage consisted of Sovereigns and half Sovereigns, passing for 20 *s*, and 10 *s*.

The former Coins consisted of Guineas of 21 *s* each, half Guineas passing for 10 *s* 6 *d*, and thirds of Guineas or Seven Shilling Pieces.

The Silver Coins are Crowns of 5 *s* each, half crowns of 2 *s* 6 *d* each, with Shillings and Sixpences.

The paper money consists of notes issued by the Bank of England, for various sums from £ 1 to £ 1000.

In different parts of the kingdom, promissory notes issued by country bankers are received in payments; they are either such as are local or payable in Bank of England notes at the places at which they are dated, or they are made payable in the same manner, at some banker's in London.

OF THE COINS.

GOLD.

In the former regulations for the weight of Gold Coins, 1 Pound of Standard Metal of 22 carats fine, or of which 22 parts in 24 are pure Gold, was to be formed into $44\frac{1}{2}$ Guineas; and the present regulations agree with the preceding, both in the quality and the proportionate weight of the Coins; so that a sovereign is 20-21 ths the weight of a Guinea, or 1869 Sovereigns weigh 40 pounds, making the Mint rate for Standard Gold to be, as before, £3 17 $10\frac{1}{2}$ per oz.

The full weight of each Sovereign is 5 dwts. $3\frac{1}{4}$ gr. but it is allowed to pass current, at the weight of half a grain less. The half Sovereigns are half the weight of the Sovereigns, and are of the same Standard purity.

SILVER.

The Standard of the Silver Coins of this Country has long been established, at the proportion of 222 dwts. of pure Silver to 1 lb, or 240 dwts. of Standard Metal; and previous to the late Coinage, this quantity was formed into 62 Shillings, making the mint price of Standard Silver to be 5 *s.* 2 *d.* per ounce.

Under the present regulations, a Pound of Standard Silver, is formed into 66 Shillings, and the liberty of coining is retained wholly in the hands of Government; His Majesty, at his pleasure, is authorized to issue a Proclamation permitting private Persons to bring Silver to the Mint to be coined, but then they are to receive only 62 Shillings for each Pound of Standard Metal, the 4 *s* being retained as a compensation for the expense of coinage, under the denomination of Seignorage; the price, therefore, of coined silver is now 66 pence per ounce.

According to the Mint prices of these metals, their former relative values were as 15.072 to 1, and their present, as 14.159 to 1; or 1 lb weight of Standard Gold would formerly purchase 15.072 lb. of coined Silver, whereas, at present, it will purchase only 14.159 lb.

If the comparison is made with the pure metal which each contains, their relative values are as 15.209 to 1 and as 14.287 to 1.

The intended operation of this change in the relative values, is that of obliging the silver currency to remain in this country, by affording no temptation to export it, at its diminished weight and value; and to prevent the two metals from being brought into competition, by a preference being given to payments which might be made in Silver instead of Gold, it has been enacted that a greater sum than 40 *s.* shall not be used as a legal tender; Silver being declared to be employed, for minor purposes, as a coin of Exchange, and not like Gold, as a standard of value.

Without attempting to enter into the merits of the question, as to whether these regulations are calculated to produce their intended good effect, it may be useful to observe, that this is the only nation in Europe which has established Gold as a standard of value. It was attempted at Leghorn with very nearly the same as our present relative value of the Coins, but Gold quickly disappeared, and the experiment wholly failed. Upon the Continent, Dollars, Francs, Marks, Guilders, Florins and other Silver Coins, are the principal monies of account, or the medium of value for the purposes of commerce; Gold, whether coined or uncoined, is considered as Bullion, that is as an article of merchandise, and according to its being either in demand, or not being wanted, it has an Agio, or it either bears a premium, or it is taken at a discount. It is thus arranged at Paris, at Hamburgh and at Amsterdam, and with some variations, but upon the same principle, it is the practice with the other parts of the Continent. It must however be remarked, that in great commercial cities as in Hamburgh and other places, to obviate the inconvenience that would attend the payments of large Sums, with so great a weight as would be required of Silver, Banks of deposit are formed, in which the payments are effected by the transfer from one account to another, a thing which in the great and widely extended transactions of this Country, would be nearly impracticable.

Under the present regulations, if the possessor of Gold wishes to have it coined, he must deliver to the Mint a quantity, of not less than 15lb., of standard metal. This is proved by the Assay Masters of that place, and in the course of a week after the delivery, the owner obtains from the superintending officers, a receipt or acknowledgment of the weight delivered, of its report or quality, and of the equivalent quantity of Standard Gold. An interval of about a month then takes place, before the coins which it has produced can be obtained. No direct expense attends the coinage, but there is a charge made for re-melting and assaying the metal.

As the term REMEDY is sometimes used with reference to the coinage, it may be useful to give the following explanation. The master of the Mint is considered as a private individual, entering into a contract with the king, to deliver a certain quantity of coin of a given weight and fineness, in exchange for the metal delivered to his charge; as it is supposed that with the greatest of attention, it cannot be rendered perfectly of this standard, an allowance is made for the fallibility of the workmanship, of which the limits are called the Remedy. In our coinage, the remedy for Gold is 1-6th of a carat in a pound, and for Silver 2 dwts in the pound; and the variations from the standard must not be greater than these allowances, either in weight or fineness, or in both of these; otherwise the master of the Mint must recoin the money at his own expense.

The coinage being considered as a subject of national importance, the proof of its accuracy is made with much solemnity. A jury of the Goldsmith's Company ascertains the weight and quality of several pieces, called the Pix, selected from the coinage, and their report is officially made in the presence of the Lord Chancellor, and other members of His Majesty's government.

OF BULLION.

The appellation of Bullion is given to Gold and Silver, not formed into coins, or manufactured into plate; but under this term is sometimes included every description of Gold or Silver, which is not in the state of the current coinage of the Country.

When Bullion is brought to this country by Men of War, it is conveyed to the Bank of England and deposited there until claimed by the consignee, when the charge for the freight must be paid. The Bank will also receive any deposit of Bullion, and keep it in safe custody for any length of time, without making the least charge on that account.

In the sale of Bullion thus deposited, there are two methods to be adopted, the one is to sell it through the medium of the Bank Brokers, and the other is to employ any other Broker as in the usual dealings of articles of merchandise.

When the Bank Brokers are employed, if the Gold is in dust, or the Bar or Ingot has not been melted by the persons engaged for that purpose by the Bank, it must go through that process, and a portion of it is afterwards sent to the Mint to be assayed; when the report is received, the value is calculated according to the price at which the Brokers have disposed of it, and the amount, after deducting the charges of freight, assaying, &c, is received at the Bullion Office of the Bank.—On the other hand, the purchaser pays his money at the same place, and the property is transferred from one person to another, without either knowing the other party in the business. Thus, instead of any private individual, the Bank may be the purchaser, or the seller, and it is commonly so stated in the accounts of these transactions.

As before observed, private sales of Bullion are conducted like the sales of Goods.

For the methods of reducing Gold and Silver to standard, according to the report, see Part I. page 164 to 181, and for the new method adopted in France, which is sometimes referred to in this Country, see one of the following pages containing the principles of Exchange calculations.

The usual Foreign Gold Coins that are sold in this Country, are Spanish Doubloons, Dutch Ducats, French Louis d'ors, Napoleons, or Twenty-Franc Pieces, and Portuguese Johannes, or Six Mil-Fours. Scarcely any other Silver Coins than Spanish Dollars and French Five-Franc Pieces are sold in any large quantities.—The rates at which all these are sold by the ounce, are according to the Coins, for the purity being well known no assay is required.

OF THE PAPER CURRENCY.

The promissory notes of the Bank of England, form the only acknowledged paper currency of this country; and during a deficiency in the gold coinage, they are the only medium by which any payment, above 40 *s*, can legally be made.

Of the regulations, and privileges of the Corporation of the Bank of England, and the periods and rates at which Bullion payments of their notes are to be made, a detailed account is given in another department of this work, (the Stocks), in addition to which it may here be observed, that under the former constitution of this Company, they were restricted by heavy penalties, from purchasing any government Annuities, or lending any money for purposes of the State, except in advance of the receipt of some portions of the Revenue, which thereby stood pledged for the repayment, as soon as it could be collected. In this state of things, Bank Notes were the representatives of the Bullion or Cash obtained with these notes, of the Commercial Bills discounted by the Bank for which those notes were given in exchange, and they were also a representative paper for the advances upon the taxes.

The first alteration which was legally made in this system, took place in the year 1793, when in consequence of the Government having been accustomed to make the Bills drawn upon the Treasury, payable at the Bank, and it frequently occurring that the cash in the hands of the Company was insufficient to discharge these drafts, and that they could not be paid without the Bank advancing the deficiency, a Bill was brought into Parliament to indemnify them for having made any such payments, and to authorise them to continue the practice at their discretion; the result of this accommodation, combined with a more than ordinary demand for Gold, in the peculiar circumstances of the country in the year 1797, occasioned the interference of the legislature to prevent the Bank from making their payments in specie, and this restriction has been continued up to the present period.

Of the immediate consequences of these measures, it may be observed, that the advances upon account of the Taxes, Treasury Bills, &c, considerably increased, and the Bank also, at different periods, advanced above nineteen millions of money, or they issued that amount in their notes, in purchase of Exchequer Bills, that now form another of those assets, which if obliged to make any other payment of their obligations, than by giving one note for for another, the Bank must be under the necessity of exchanging either with Government or the public.

Of the effect which this restriction has had upon the exchanges of this country, a very great contrariety of opinions has been entertained ; it appears that for a long period, it enabled the government to make its foreign payments, both for subsidies to the other powers at war with France, and for the expenses attending our fleets and armies in foreign stations, without its producing any material result ; as, in consequence of the public confidence in the ultimate payments of the Bank, Gold possessed no value superior to their notes, and it was only by a long continuance of this expenditure, that the stock of Gold became nearly exhausted, and a necessary great advance took place in its value.

A position in which this question may be placed, is that of supposing the Gold formerly in circulation to have been 40 millions of money, and the foreign expenditure to have been only 3 millions a year more than the balance which our trade restored to the country ; this continued for rather more than 13 years, would totally exhaust those treasures, and foreign money in consequence becoming more valuable, the exchanges of those places giving the variable price, would necessarily fall, while Bullion, from its scarcity, would proportionately rise. As this expenditure in distant places has ceased, so long as commerce continues to be favorable, the natural consequence will be, that gold and silver will return into the country, their value will decrease, and the Exchanges will rise, précisely from the reverse of those causes which occasioned their depression.

For every purpose of internal commerce, Bank notes possess many advantages which do not attend a metallic currency ; and it is only where any particular branch of foreign trade, operates to the disadvantage of the nation, as is generally the case upon the importation of Grain, that any preference is given to payments in specie.

THE BALANCE OF TRADE.

When the amount of the exportations of a country, is greater than the amount of its importations, the balance of trade is said to be in its favor; and, if this should continue beyond the usual period of mercantile credit, an influx of money must necessarily take place, and continue while the debt is in a progress of liquidation; but it is only upon the general balance of Trade with places in communication with each other, that a favorable state of commerce can have this operation. Where no credit is given, and where no Bills of Exchange transfer debts from one country to another, the simplicity of the transactions affords a direct method of determining the advantage or the reverse.

The impulse which the nature of the balance of Trade, gives to the Exchanges of a country, must either immediately or ultimately have a considerable influence; thus, supposing the country with which the commerce has been carried on, and by which the balance is becoming due, to be France; then a demand will there be created for Bills upon this country, and a high price will be given for them in consequence of their increasing scarcity; or, in England, from having a large fund to draw upon in France, an abundance of Bills will come into the exchange market, and a great number of francs will be given for the pound sterling, to force a sale for them as long as it can be made; but thus depression in the value of the French money, has limits which it would soon reach; for when it is found that from there being but few purchasers a great loss is incurred, Bullion or Coin, which has, in both countries, a protecting price by their mint regulations, would be sent over in the place of Bills, and thus it is that by gold or silver, the balance finally would be discharged.

It may therefore be considered as a general principle, that when a country has to pay money, whether for importations, or upon any

other cause, the Exchanges will be against it, and Bullion will be in demand; and the reverse will be the case, when the amount it has to receive, is greater than that which it has to pay. The nature of the balance of Trade is the proper cause of these opposite effects; and although extensive speculations in Bills or Bullion, or the financial measures of Government may for a time destroy its influence, they cannot permanently reverse its operations.

PARS OF EXCHANGE.

A Par of Exchange is an equivalent sum in the money of one country, for a given sum in the money of another, each being estimated by the quantity of the same pure metal contained in the coins according to their nominal value, or to the prices of Bullion when coins cannot be used.

Thus supposing the gold currency of France, to be compared with that of England, and it is found that 100 sovereigns contain as much pure Gold, as there is in 252 ten-franc pieces of the French Gold coinage, then it is said that the par, in Gold, of the two exchanges is 25 francs 20 cents for the £ sterling; or, if the silver coinage of the two countries be compared, and it appears that the silver in £100 or 2000 shillings, is equal to that in 2323 francs, then the par of Exchange in this metal is said to be 23 francs 23 cents.

In these estimations, it is supposed that the value of Bills of Exchange, is given in the one country, and received in the other in the same metal; but as this country has adopted gold, for its intended medium of payment, and as almost every other country uses silver for that purpose, it is chiefly by the price of Bullion that the par can be determined. This consequently occasions a very frequent variation in the estimation of pars of Exchange, but it is only by those, determined in this manner, that men of business can be guided in their calculations.

When the par of Exchange is taken from the coins, some deduction from the reputed weight and standard, is generally required, for the allowance for remedy, or the deviations in their actual state from the Mint regulations of the place of coinage; and, practically considering the subject, some further deduction must be made in the weight, for the loss which they commonly sustain by friction in the wear; but, in the employment of coins for purposes of domestic commerce, the weight and fineness has but comparatively little influence; and it is only, as it may be necessary to send them abroad, that their value from these causes, becomes a subject of consideration. In this case, either coin or Bullion is taken at its actual weight, and the latter at an assayed fineness, and if the two are equal in both respects, coin has but a very little greater value than Bullion; and this difference where it exists, as it may with pieces of money that have not been used, obviously arises from there being no assay required of them, when they pass from one person to another, and also from their capability of being employed in smaller quantities, without inconvenience.

At the present time, standard gold is worth £ 3 17 10½ per ounce, or £ 46 14 6 per lb, and this is the nominal value of 44½ Guineas; but as these Guineas, from the use they have undergone, will not weigh 1 lb, their intrinsic value is less than the above sum.

A Course of Exchange is the rate at which a Bill of Exchange is sold, and in the usual mode of expressing it, only the variable part is given, which, for the sake of distinction is called the uncertain price.—In explaining the courses of Exchange it is commonly said, that the uncertain price is *given*, when it is in the money of the country, and *received*, when it is in that of the place referred to.

Upon Foreign Post Days, Lists of the Courses of Exchange are made out and published, either in separate statements, or with the Current Prices of articles of merchandise.

The method in which these courses are fixed, is the following. Upon the Foreign Post Day, to which the list refers, the principal Exchange Brokers, meet at the Royal Exchange a short time before the chief business commences, and from the prices of Bills as they actually sold the last day, from the intelligence they have received of the state of the Exchanges abroad, and from the knowledge they possess of the general plentifulness or scarcity of money, both here and upon the Continent, with the consequent probable demand for remitting and drawing, they form an estimate that is very rarely inaccurate, of the price which good Bills will produce in the pending negociations.

These Lists are made out in the following monies, for those countries only upon which London has a direct Exchange.

Hamburgh and Altona..	Schellings & Grotes Flemish per £ Ster.
The Netherlands	Current Florins and Stivers....."
Paris and Bourdeaux....	Francs and Cents ....."
Vienna	Florins and Cruitzers ....."
Frankfort—on the Mayn.	Batzen ....."
Portugal	Pence Sterling per Milrei.
Spain	Pence per Dollar of Exchange
Gibraltar	Pence for 1 current Dollar of 8 Reals.
Leghorn	Pence per Pezza of 8 Reals.
Genoa.....	Pence per Pezza of 115 Soldi.
Venice	Lirè and Soldi per £ Sterling.
Malta	Pence per Onza.
Naples	Pence per Ducat del Regno.
Palermo	Pence per Onza.
Ireland	Rate of Premium for Sterling.

GENERAL REGULATIONS

CONCERNING

BILLS OF EXCHANGE.

No bill drawn in Great Britain or Ireland is valid, unless written upon a proper stamp; when bills are made payable at any period after date, or after sight, they are not considered to be due, and contrary to the general practice upon the continent, they are not presented for payment, until the last of the days of grace. The acceptance of a bill is usually made in writing, and, with merchants, &c. it is usual to make them payable at their bankers, by whom, when presented, the acceptance is considered as a draft. It is otherwise with the Bank of England, as is mentioned in Part I. of this work.

Both acceptances and endorsements may be made by an authorised clerk or agent; the usual form of which is to state their being done *per procuration of* the principal. An acceptance may also be made verbally or by letter, and when once made, in whatever form, it cannot be revoked. It is always necessary, that the person to whose order the bill is made payable should endorse it, and it is usual for it to bear the endorsement of every person to whom it is transferred. A blank or general endorsement is done by the party merely writing his name, but a special endorsement makes it particularly payable to a specified person, whose endorsement, personally or by procuration, it must afterwards bear.

The hours for presenting bills for acceptance or payment, are between nine in the morning and six in the evening. If not paid by the latter hour they are usually noted, or payment is demanded by a public notary, or his clerk, and with foreign bills it is requisite they should be protested on the following day, or in time to be sent with the bill by the next mail. Inland bills are seldom protested, and it is not even necessary that they should be noted. When any delay takes place in the holder of an accepted, but unpaid bill, giving notice to the party from whom he received it, he loses his right to claim payment of any other person, than him on whom it is drawn.

Unpaid bills of Exchange, bear interest from the days upon which they become due.

When bills drawn upon persons abroad, which have been purchased in this country, are returned either from not being accepted, or for non-payment, the seller is liable to make good all expenses which have attended them, with the difference, if any, in the course of Exchange, when it may be to the disadvantage of the purchaser. To avoid these expenses, references are sometimes made upon the bills, to apply to another person than the drawee in case of need. Sometimes, Bills are accepted or paid by other persons than those upon whom they are drawn, in order to save the credit of the drawer. An acceptance in this case bears the initials, S. P. to denote its being granted, Sub Protesto, or under the declaration of a Protest.

Foreign bills are generally drawn in sets of three bills, any one of which being accepted and paid, the others are of no value. Of the three bills drawn in London, each is required to be stamped, and one is usually retained in this country by the purchaser.

Sometimes the first bill is sent abroad to be accepted, before any sale takes place, when, instead of its being returned, it is delivered by direction of the owner, to the person presenting one of the other bills.

The days of transacting Foreign Exchange business, called foreign post days, are Tuesday and Friday; in these negociations, when a purchaser has been found for a bill upon one of these days, the first is drawn and delivered to him, or the second if the first has been sent for acceptance; the others are delivered the next post day, when payment is due and required.

The charge for brokerage is 1-10th per cent to both the buyer and seller; the charge for commission is generally $\frac{1}{2}$ per Cent, but necessarily made to only one party.

As the term USANCE is sometimes though very seldom used, it may be necessary to observe, that it implies the usual time for which Bills from the given places, are drawn. As with London, it is 1 month from Holland, Germany and France; 2 months from Spain and Portugal; and 3 months from Italy; all after date. It is now more customary to express the time upon the Bills.

OF THE GENERAL PRINCIPLES

OF

EXCHANGE CALCULATIONS.

Of the elementary principles of Arithmetic, in addition to those belonging to the ordinary operations with whole and fractional numbers, with which it is presumed every person is well acquainted, who is desirous of becoming expert in Exchange Calculations, he must be considered to understand the principles of decimals, and the methods of contracting long calculations by the use of Logarithms. As these have been very fully shown in the former part of this work, we shall here make only some general observations, upon their immediate application to Exchanges.

With respect to the valuations of the decimal parts of a £ sterling, and the reverse, these principles are equally applicable to any money, of which the principal Integer is separated in the same manner as the pound of money; as the old Flemish pound, the Libras of some parts of Spain, and the Dollar of Exchange of Leghorn. Where the Integer is not so separated, the decimal valuation can frequently be easily made, by considering the lower denominations as fractional parts, and converting them into decimals.

The principles upon which the reduction of quantities is performed being well understood, for the purpose of occupying less space, many of the following calculations are exhibited in a very abbreviated form, or rather only their results are expressed; in general, the multipliers and divisors are omitted when used for reductions, and upon the same account in many of the long multiplications and divisions, only the products and quotients are given, as in the following statement.

	Flo. st.		£		Florins	
If	12 5	produce	1	what will	8000	produce?
	245 st.		£		160000	

245) 160000

Answer.....£ 653 1 3 Sterling.

Besides noticing, that the reduction of 12 florins into Stivers, is not performed by multiplying 12 Florins by 20 Stivers (as is usually said) but by taking 20 times 12 Stivers, in place of taking 12 times 20 Stivers, it is to be remarked, that, in the given rate, as 245 Stivers produce £ 1, one Stiver will produce the 245th part of a pound, and, consequently, 160000 Stivers will produce 160000 of those parts, or, what is the same, the 245th part of £ 160000.

Of the principles of Practice calculations, it is hardly necessary to enlarge upon what has been said; in general, in the following use of this method, the preference is given to the finding of the value of the whole quantity, at the integral rate, and thence deducing it at the rate which is given.

In making use of the Chain Rule, it may be serviceable to add the following directions.

"Make the quantity whose value is to be found, the first consequent, or the term of interrogation, and complete the equation by such terms of equality, as will lead from the first term to one in the same denomination, or of the same nature as that which is required to be produced."

Upon the Continent, much more frequent use is made of the form of this rule, than in this country; our practice, in simple calculations, being rather to state the Equation in the form of a Rule of Three question, and to use such reductions as may be required. In Compound Proportions the Chain Rule is a very useful method of making the statement.

In the elementary part of this work, no notice was taken of the employment of fixed numbers, but sometimes, particularly in the arbitrations of Exchanges, they are of much use, and they may be thus explained.

Supposing it to be required to find the value in grotes, of a Bill for £ 1, drawn in London upon Lisbon, at the rate of $53\frac{1}{2}$ *d* per 1000 reis, which was sent to Hamburgh, and sold there at the rate of $38\frac{3}{8}$ grotes for 400 reis.

The statement of the equation is thus made.

What will £1 produce?

If £1 produce .. 240 Pence.
* $53\frac{1}{2}$ pence .. 1000 Reis,
and 400 reis .. *$38\frac{3}{8}$ Grotes.

Marking the variable terms with an asterisk, and combining the others, thus,

$$\frac{10,00 \times 240}{4,00} = 600$$

We obtain 600 for a fixed number, and hence in all calculations between these places of the same nature as the above, we may acqu re these directions "multiply the grotes in the price at Hamburgh by 600, and divide the product by the number of the pence in the rate at London; therefore $38\frac{3}{8}$ grotes multiplied by 600 and divided by $53\frac{1}{2}$, produces $430\frac{1}{4}$ grotes for the rate required.

Sometimes, though but seldom, the use of Logarithms will greatly lessen the labour of long calculations of this nature.

As a further Example of the method of using the Chain Rule, we shall give the work of the process, by which one of the relative values of fine gold and silver, given in a former page, was determined.

1 lb. fine Gold?
Fine 11 lb. = 12 lb. Standard.
Standard 1 lb. = 46 14 6 Sterling = 11214 *d.*
12 *d* = 1 *s.*
62 *s* = 1 lb. Standard Silver.
Standard 240 lb. = 222 lb. Fine Silver.

5607

62 ——

110 11214

6820 11214

12 11214

8184,0) 124475,4 (15,209
.42635
.1715,4
7860 &c.

and by substituting 66 for 62 in the divisor, we obtain the proportionate values, at the other rate for Standard Silver.

Instead of either using intermediate rates, or reducing compound quantities by the ordinary methods, the decimal reduction can sometimes be employed with much advantage, at least for simplifying the calculation, if not for abbreviating it. The preceding equation with decimal numbers may be thus stated.

		1 lb. Fine?
Fine 11	=	12 lb. Standard (3.)
Standard 1	=	46.725 £ (3.115.)
£ 3.1	=	1 lb. Standard Silver.
Standard 240	=	222 Fine.
(16)		3.115
(4) × 11 = 44		691.530
3.1		3
136.4)		2074.590
		15.21 nearly.

For 66 *s* or £ 3 2 *s* we use £ 3.1, and for £ 46 14 6, £ 46.725; this number and the 240 are divisible by 15, and the 16 produced from the last, with the 12, are divisible by 4.

For the sake of distinction, the numbers which are produced by the divisions by common divisors, are enclosed in parentheses.

In the weights and measures of France, and in the new regulations of Holland, the decimal separations and combinations have been adopted, and many recommendations, by scientific persons have been made for their being used in the standards of this country; but it may be observed, that however advantageous this uniformity of calculations, with such numbers, may be to those who have to perform long arithmetical operations, they are less capable of being mentally accomplished, than those separations in which the numbers 3 or 4 will act as complete divisors.

In conformity with the method practised in France, the fineness of the precious metals is sometimes decimally given; thus instead of saying the standard of our gold is 11 carats fine, and of our silver 222 dwts fine,

they say, our gold is nearly 917 fine; for 11 ÷ 12
and our silver exactly 925 fine; for 222 ÷ 240

meaning, that in 1000 oz. of each standard metal, there are 917 oz. of fine gold, and 925 oz. of fine silver; and thus, other degrees of purity are reported.

In determining the quantity of fine silver, in a given weight of metal of a given purity, the calculation is thus performed.

Let the weight be 802 ounces and the purity be 900, then

802 oz.
900

the weight of fine silver, is oz. 721,800 or 721 oz. 16 dwts.

and, if the weight of standard silver be required, then

.925) 721.8

the quantity of standard metal is 780.3 or oz. 780 6 dwts.

To reduce these reports to the English method,

as for	.983	of Gold	and	.893	of Silver.
	24			240	
	23.592			214.32	
	22	Standard		222	
	car. 1,592			7.68 or $7\frac{1}{2}$ dwts. Worse.	
	4				
	gr. 2,368	or 1 carat $2\frac{1}{4}$ grains Better.			

(or)	.983			.893	
	.917	.. Standard	...	.925	as above.
	.066			.032	
	24			240	
	car. 1,584			dwt. 7,680 or $7\frac{1}{2}$ dwts.	
	4				
	gr. 2,336				

ARBITRATIONS

OF

EXCHANGE.

In the calculations for determining an arbitrated Course of Exchange, the object in view is to find whether, upon making a remittance to a given place, a more favorable result will be obtained, by buying bills upon other places and sending to the place in question to be sold there, than would attend a direct remittance.

As for example, having a remittance to make to Hamburgh, it may be required to know, whether, if a Bill drawn upon either Paris or Amsterdam be purchased in London, and be sent to Hamburgh to be sold, it will produce a greater or less sum, than would be obtained by laying out the same sterling money in the purchase of a Bill drawn direct upon that place.

In merely the theory of the subject, the buying and selling prices being given, a fixed sum is supposed to be laid out in London, or wherever the calculation may be made, and its produce is obtained by working an equation.

In the practice of these indirect remittances, many subjects require to be taken into consideration; the extra charges attending the transaction, the probability of the courses abroad either remaining the same, or rising or falling, the quality of the Bills, and the readiness of sale, are amongst the most important; and combined with the arbitrations of Bills, the course of Exchange established by Bullion remittances, will necessarily receive attention when the best means are sought for, by which a debt may be discharged, or a fund may be created in another country.

ENGLISH WEIGHTS AND MEASURES.

AVOIRDUPOIS WEIGHT.

1 Ton = 20 Hundred Weight; 1 Cwt. = 112 Pound; 1 lb. = 16 oz.
1 oz. = 16 drams.

TROY WEIGHT.

1 lb = 12 oz.; 1 oz. = 20 Pennyweights; 1 dwt. = 24 grains;
1 lb. Avoirdupois = 7000 grains Troy.
144 lb. Avoirdupois = 175 lb. Troy.

APOTHECARY'S TROY WEIGHT.

1 lb. = 12 oz.; 1 oz. = 8 drams; 1 dram = 3 scr.; 1 scr. = 20 grs.

AVOIRDUPOIS WOOL WEIGHT.

1 Last = 12 sacks; 1 sack = 13 tods or 26 stone; 1 st. = 7 lb.

WINE MEASURE.

1 Tun = 252 Gall.; 1 Pipe = 126 Gall.; 1 Kilderkin = 18 Gall.
1 Gallon = 4 quarts or 8 pints = 231 cubic Inches.

BEER MEASURE.

1 Butt = 108 Gall.; 1 Barrel = 36 Gall.; 1 Kilderkin = 18 Gall.
1 Gallon = 4 Quarts or 8 Pints = 282 cubic Inches;
77 Beer Gallons = 94 Wine Gallons.

CORN MEASURE.

1 Last = 10 qrs.; 1 qr. = 8 bushels; 1 bushel = 4 pecks or 8 gallons.
A Bushel contains $2150\frac{42}{100}$ cubic Inches.

COAL MEASURE.

1 Chaldron = 12 Sacks; 1 Sack = 3 Bushels; 1 Bushel 4 Pecks;
A Chaldron of Coals is considered to weigh about 25 cwt.

LONG MEASURE.

1 Mile = 8 Furlongs; 1 Furlong = 40 Poles; 1 Pole = $5\frac{1}{2}$ Yards;
1 Fathom = 6 Feet; 1 Yard = 3 feet; 1 foot = 12 Inches.

For other weights and measures see Part 1, Pages 61 and 62.

THE INLAND EXCHANGES.

The domestic Exchanges of all countries, throughout which the same currency is used, are regulated by an Agio, or a premium or discount, for Bills drawn upon the capital from the country or the reverse, unless it is compensated for, by the distance of time which the Bills have to run, instead of their being made payable at sight. In this kingdom, business of this nature is conducted by the agency of the country Banks, of the principal regulations of which, as well as of the Bank of England, some account has been given in the former parts of this work, in addition to which we shall subjoin the following statement of the practises of the London Bankers, in the daily settlement of their mutual debits and credits.

It is the general custom in London, for all persons having accounts opened at Bankers, to make their Bills payable by them, and acceptances with these directions are considered as orders to the Bankers to discharge the Bills when due. On the other hand, it is usual for the merchant to pay in the drafts he may hold upon other Bankers, with his Bills of Exchange, to his own Banker, that they may be presented for payment through his medium. But instead of the Drafts and Bills accepted in the above manner, being sent to each Banker to be liquidated, a house in the western end of Lombard-street, called the Clearing House, is appropriated for a clerk of each to bring his Drafts and Bills, and settle his accounts.

As this department of the business of the metropolis is but very little understood, we shall enter at some length into an explanation of its details.

The clearing commences at 10 o'clock in the morning, when the clearing clerk receipts his bills, writes the firm of his house across them, that if necessary they may be returned to him again, and sorts them in the alphabetical order of the different bankers.—He then enters them in the "Received clearing Book," and opens his Clearing House Book, by separating the Dr. and Cr. columns of

each page into as many divisions, as there are bankers that clear, viz. 36. heading each in alphabetical order, and allotting to them as much space as the business of the day, and the nature of the Account may require. He then enters the same parcel of bills and checks, as were entered in his "Received Clearing Book," on the Dr. side of these columns, and this Account, with his Drafts, &c, is taken to the clearing house.

His employment there commences, with his distributing his bills, &c. into the boxes of the other bankers, going through the room in a sort of a figure of an M, beginning with Barclay's house, and ending with Willis's, and he then takes his proper seat and begins to enter on the Cr. side of their respective accounts, such drafts, &c., as the other clearers have put into his box; he next balances the accounts, checks them with the other clearers, and having made them agree, he returns to the banking house, and thus finishes his morning's clearance.

The checks he brings with him from the clearing house, are then examined, and such as are in any respect irregular, or not provided for, are returned in the afternoon at the clearing house, to the Banker whose name or receipt they bear upon them.

The drafts admitted are next entered by a clerk, in a book called the "Paid Clearing Book" with the names of each customer that has drawn, entered in the margin against them, instead of having the banker's name, as in the "Received Clearing Book."

The afternoon's clearing commences at the banking house about 2 o'clock, when the clearer having sorted the drafts, &c, from a box kept for the purpose of collecting together all those checks, which have been paid in by customers during the morning, he enters them as before in the clearing house book, with such bills as he returns for irregularity, &c. instead of striking them out of the account, which might occasion great confusion. This being finished, the bearer pays his second visit to the clearing house, where he delivers his drafts, returns his bills, and enters those against him, which he finds in his box. In his afternoon's employment he has the assistance of two other clerks, one at home entering the drafts brought in, and the other bringing them down to the clearing house, distributing them throughout the room, and

returning to the banking house with the checks for his employer's payment, in order to get them either allowed or rejected.

After four o'Clock no drafts are received at the clearing house, and after five any clerk may refuse to receive back a bill, for which sufficient provision has not been made. At five o'clock, the balances of his books, and of his accounts with the bankers, are finally taken; and the latter being brought into a general balance sheet, he finds how much upon the whole, he has either to receive or pay. If the latter is the case, he gets the two inspectors appointed for this purpose to examine his general account, and then he is at liberty to go to the banking house, to procure the money he has to pay. Previous to this, however, he declares what he owes the clearing house, and engages some of those who have to receive of the house, to take as much as he will have to bring; and on his return he pays away the money, and thus finishes his business at this place. On the other hand, if he has to receive money of the house, he takes it of such as have to pay it, and having obtained his balance, he gets his account passed by the inspectors, and settling this at home, concludes his transactions for the day.

It may be said, that the Clearing House is represented by the two Gentlemen who act as Inspectors, and who check the accuracy of the particular statements, by entering in a general account for the Clearing House, the balances declared as being either for or against each Banking House; from which it necessarily results, if the Accounts are correct, that the amount of the Debits must be equal to the amount of the Credits, or that the sums which are to be received by some of the Banking Houses, are exactly equal, in amount, to the total of what the others have to pay.

It is by these methods, planned with much skill, and carried into effect with admirable precision, that payments and receipts of an immense magnitude, are so set off against each other, that the balance requires to be liquidated by comparatively a very trifling amount.

A similar practice of exchanging Drafts, takes place with the Bank of England and the London Bankers, the Bills and Drafts held by the Bank being admitted to be discharged by the Drafts upon that Company, which the Bankers may possess.

SCOTLAND.

Since the union of the two kingdoms of Scotland and England, the coins and the money of account, as well as the weights and measures, are legally the same; but in some places, and under some circumstances, the Scotch denominations are still used.

MONEY.

1 pound = 20 shill. = 240 pence = 720 placks = 1 *s.* 8*d.* ster.
Scotch money is 1-12th in value of English money.

Troy or Dutch weight.

1 stone = 16lb. 1 lb. = 16 oz. 1 oz. = 16 drops.
1 lb. Dutch = 7600 grains Troy English, or 35 sco. lb. = 38 lb. avoirdupois.

Scotch Trone weight.

1 stone = 16lb. 1 lb. 16 oz. or 20 or 28 oz.

Scotch Long measure.

1 Mile = 8 Furlongs. 1 Furlong = 40 Falls. 1 Fall. = 6 Ells.
1 Ell = 37 Inches 30 Scotch Ells = 31 English yards.
80 Scotch miles = 91 English Miles.

Scotch Land measure.

48 Scotch acres = 61 English Acres.

Scotch Dry measure.

1 Chalder = 16 Bolls, or 64 Firlots. 1 Firlot = 4 Pecks or 16 Lippies.
The wheat Firlot = 1 Winchester bushel, nearly,
The Barley Firlot = 1½ Winchester bushels.
The Boll of Barley weighs 140 lb. Avoirdupois.

SCOTCH LIQUID MEASURE.

1 Hhd. = 16 Gallons. 1 Gallon = 4 quarts or 8 pints.
1 Pint = 2 Choppins, or 4 Mutchkins, or 16 Gills.
105 Scotch Pints = 47 Wine Gallons English.
11 Scotch Pints = 4 Ale Gallons English.

EXCHANGES.

Like other of the Inland Exchanges, Bills upon London either bear a small premium, or a compensation is made, by the time for which they are drawn ; 45 days were usually the term, for which the principal Scotch Banks drew their Bills, but it has lately been reduced to 20 days.

The chartered Banks are, the Bank of Scotland, The Royal Bank, and The British Linen Company. The English regulation of limiting the number of the partners in Banking concerns to six, does not apply to Scotland.

Until the privilege was recently abolished, any alien possessing a share in the Royal Bank, became entitled to all the rights of a Scottish, and consequently of an English born subject. The amount of the share was £1000 scotch or £83 6 8 sterling, but upon the discovery of the possesser being able to enjoy this advantage, it rose in value to above 300 per Cent.

The money of Account in Ireland, is Pounds, Shillings, and Pence of Irish currency, but the Coins that are used in this country, are those of England at an increased rate ; the Sovereign being current for £ 1 1 8, the Crown for 5 *s* 5 *d*, and the Shilling for 1 *s* 1 *d* or 13 pence Irish.

Hence the established par of Exchange is $8\frac{1}{3}$ per Cent, but the usual range is from 10 to 15 per Cent in favor of England.

The Irish weights and measures are the same as those of this country, with the exception of the liquid gallons, of which 106 Irish are nearly equal to 100 English.

In the measures, also 11 Irish miles = 14 English miles,
and $30\frac{1}{4}$ Irish Acres = 49 English Acres.

The regulations respecting Bills of Exchange are nearly the same in both countries, but Bills falling due upon a Sunday are not presented until the following day.

Bills drawn from Dublin are usually made payable at 21 days sight, but from other parts of Ireland the period is generally 61 days sight.

The Irish Stamp Duties upon Bills, are similar to those of England but at a less rate ; the legal Interest of money is 6 per Cent.

The Bank of Ireland is constituted upon exactly the same principles, and with the same privileges as the Bank of England. The Corporation are the Bankers of Government in all its financial operations, but it manages the payment and transfers of the National Annuities, without any remuneration. The same restrictions exist upon the Bank of Ireland, from paying their notes in specie, as are imposed upon the Bank of England.

England is the only place with which Ireland exchanges, and in consequence, all drafts and remittances to the Continent and elsewhere, are negociated through the medium of London.

For the account of the Irish Stocks and Annuities, see a former department of this work.

EXAMPLE OF THE EXCHANGE CALCULATIONS.

To exchange £1850 10 3 Irish money into English at $12\frac{1}{4}$.

	£		£		£	s	d	
If	$112\frac{1}{4}$	produce	100	what will	1850	10	3	produce?
	4						4	
	449				£7402	1	0	= £7402.05

£
449) 740205

£1648 11 3 Sterling.

PROOF.

To exchange £1648 11 3 Sterling into Irish money at $12\frac{1}{4}$.

	£	s	d	
$\frac{1}{10}$	1648	11	3	
$\frac{1}{5}$	164	17	$1\frac{1}{2}$	for 10 per Cent.
$\frac{1}{8}$	32	19	5	 2
	4	2	5	.... $\frac{1}{4}$
	£1850	10	3	Irish money.

(or)

	£	s	d	
	1648	11	3	Amount at 100 per Cent.
			12	
	19782	15	0	
	412	2	9	
100)	20194	17	9	
* Difference	201	19	0	Amount at $12\frac{1}{4}$ per Cent.
	£1850	10	3	Irish money.

N. B. * At $8\frac{1}{3}$ per Cent the difference is 1-12th of the English money, or 1-13th of the Irish; additive to the former to exchange it into Irish money, and subtractive from the latter, to exchange it into Sterling. At 10 per Cent the differences are 1-10th and 1-11th; at $12\frac{1}{2}$ per Cent 1-8th and 1-9th, &c.

HAMBURGH.

All Mercantile and Banking Accounts are kept in Banco money, of the following denominations, and relative values.—

1 Mark = 16 Shillings.
1 Shilling = 12 Pfenings.

The Rix Dollar of 3 Marks is used upon some occasions.

There is also a nominal money called Flemish, in which some of the courses of Exchange are reckoned, of the following description :

1 Shilling Flemish = 12 grotes.
1 Grote Flemish = 6 pfenings.

A Pound Flemish of 20 shillings is sometimes named, but it is not used for any purposes of calculation. The Flemish money is to be considered as only another term for Banco, and their relative values are as follow :

7½	Marks Hamburgh	make	1 Pound Flemish.
6	Grotes Flemish	make	1 Shilling Hamburgh.
3	Marks Hamburgh	make	8 Shillings Flemish.

THE BANK OF HAMBURGH is a Bank of deposit for Silver in Bullion, which, exclusively, is received in Ingots into the Bank, to be passed to the credit of the depositor's account, according to their weight, or the quantity of fine Silver which they contain. For each mark Cologne Weight of fine Silver, the Bank give credit for 27 mks. 10 sh. Banco ; but when a balance is withdrawn from the books, the fine silver paid to the party, is charged at the rate of 27 marks 12 *s.* Banco, for each Cologne Mark, the difference of 2 *s.* acting as some check upon the deposit being retired. For the accommodation of the public, the Bank will make advances, or credit an account, for deposits of Spanish Dollars or Piastres, at the rate of 27 marks 8 sh. per fine mark Cologne, and this accommodation may be renewed at the termination of each three months.

No person can open an account with the Bank, but a citizen of Hamburgh; and therefore, any other person transacting business at that place, must either conduct his payments through the medium of a citizen's account, which is attended with a disadvantage of the expense of Commission, or he must pay in currency, with the allowance of the Agio.

Bills of Exchange are very rarely drawn in Hamburgh currency, and for those payable in Flemish or Banco, the payment is made by the transfer of the amount of the Bills, from the account of the acceptor to that of the holder.

Bills drawn upon Altona are paid in the same manner, that is to say, either by orders upon the Bank of Hamburgh, or by orders upon persons having account with the Bank, or with currency money at the agio for the time being.

The lowest orders upon the Bank for payment, must be for 100 marks Banco, except on the 31st December, when any small drafts are paid.

USANCE.—The Usance for Bills drawn from the interior of Germany is 14 days sight; from London, France, and Holland, one month after date;—from Italy, Spain, and Portugal, 2 months date, but they are usually drawn at $1\frac{1}{2}$ usance, or 3 months date; except with the latter places, instead of using the term Usance, it is customary to particularly specify the time at which the Bill is drawn.

DAYS OF GRACE.—All Bills are considered as due on the expiration of the time for which they are drawn, but the holder of a Bill, not punctually paid, is obliged to retain it 11 days longer, without instituting any other legal proceeding, than protesting it upon either of the intermediate days; on the last day of grace, the Bill must be presented again, and if not then paid, a new protest must be levied.

COINS.—The Gold Coin of Hamburgh is the Ducat of 6 Marks Banco, or $7\frac{1}{2}$ Marks current. One Mark Cologne of fine Gold is coined into 67 Ducats of the s andard of $23\frac{1}{2}$ carats.—Portugalesen of 10 Ducats are also coined; but neither these nor

Ducats, are used in making payments, being considered rather as medals than as coins.—The Silver coins of Hamburgh are the 1, 2, and 3 Current Mark Pieces, and the 2, 4, and 8 Current Shilling Pieces. The 3 Mark Pieces are called Current Rix Dollars, and the 2 Mark-Pieces, the Dollars of Exchange.

The Coins of various other places are current at Hamburgh, particularly those of the Danish Territories, with Zweydrittels or 2-3rd pieces of Hanover, Mecklenburgh, &c, Dutch Ducats, Prussian Fredericks D'Or, French Louis D'Or, and Dollars, the present values of which, as Bullion, will be seen in one of the following Lists.

WEIGHTS. The Commercial Weights are the following:

1 Centner = 8 Lispfund or 112 Pfund; 1 Lispfund = 14 pfund;
1 lb. = 16 oz, or, 32 loth; 1 loth = 4 quintins.
100 lb. Commercial Weight = 107 lb. English.
100 lb. English Avoirdupois = 93¾ lb. Hamburgh.

THE GOLD AND SILVER, OR TROY WEIGHT.

1 Mark = 16 loths; 1 loth = 4 quintins; 1 quintin = 4 pfenings.

213 Marks are usually reckoned equal to 1600 English oz troy; but reckoning the Mark to contain 233.692 grammes, and the pound troy 372.919 grammes, the weight of 213 Marks is 1601.73 oz, or,

100 Marks = 62.665 lb. or 752 oz. Troy.
100 lb. Troy = 159.577 Marks Cologne.

MEASURES.—Liquid the Viertel of 2 Stubgens, or 4 Kannen.

100 Gallons English = 104⅓ Stubgen.
10 Lasts of Wheat, English = 9 Lasts Hamburgh.

The Hamburgh Ell contains 2 feet or 24 inches.

100 Feet English = 106⅜ Feet Hamburgh.
100 Yards English = 159½ Ells Hamburgh.

STANDARDS AND WEIGHTS OF COINS.—In reporting the fineness of Gold and Silver, the Mark Cologne is separated into 24 Carats, each of 12 grains for the former, or into 16 loths each of 18 grains for the latter.

In the sale of Gold in bars, the price is fixed at a certain number of Shillings Banco per standard ducat of 23 Carats, 6 Grains, according to its weight in Marks, and to the assay report.

Silver is usually bought and sold either according to the quantity of pure silver which the Ingot contains, or, like Gold, according to its weight and purity.

The Current Coins are of the following weight and standard.

3 Ct. Mks.	2 Ct. Mks.	1 Ct. Mk.	8 shill.	4 shill.	2 shill.
weight.					
dwt. gr.	dwt. gr.	dwt. gr.	gr.	gr.	gr.
17 16	11 19	5 21	84½	47	30
fineness in loths.					
12	12	12	10	9	7.

A Mark of fine silver is directed to be coined into the following number of Pieces.

11⅓	Pieces of 3 Marks	or 68	Pieces of 8 shillings.
17	..... 2 Marks	136	 4
34	..... 1 Mark	276	 2

AGIO. Reckoning the value of a mark of fine silver at 27 Marks 10 shillings Banco, and at 34 Marks current, it makes the Agio upon the Bank money to be about 23 per cent, or 100 Marks Banco to be worth 123 Marks current, but this Agio is very fluctuating, as it depends upon the abundance or scarcity of the currency.

Some articles of merchandise are sold with fixed Agios at 20 or 25 per cent, and some have also a peculiar discount called RABAT, of 4 and 2-3rds out of 104⅔, or 8⅔ out of 108⅔, though it is usually said to be 4⅔, or 8⅔ per cent. It is calculated by working a proportion, saying as 108⅔ is to 8⅔, so is the given sum to the Rabat.

Courses of Exchange. The following is a quotation of the courses of Exchange at Hamburgh, with the principal places upon which bills are there negociated.

Hamburgh gives

Paris	.... $25\frac{1}{2}$	shillings banco	for 3 francs
Basle	.... $24\frac{3}{4}$	.... do.	for .. do. ..
London	.... 35 s. $9\frac{1}{2}$ g.	flem :	for 1 £ sterling
Madrid	.... $88\frac{1}{2}$	grotes flem :	for 1 Ducat of Plate
Oporto	.... $38\frac{3}{8}$	grotes flem :	for 1 Crusade 400 reis
Genoa	 80	grotes flem :	for 1 Pezza of $5\frac{1}{4}$ Lire
Leghorn	.... $87\frac{1}{2}$	grotes flem :	for 1 Pezza of 8 reals
Breslau	.... $40\frac{5}{8}$	shillings flemish	for 1 Pound Prussian banco

Hamburgh gives 100 Rix dollars Banco, to

Amsterdam	for	$105\frac{7}{8}$	Rix dollars current
Copenhagen	for	263	Rix dollars
Vienna & Prague	for	370	Flor. Aust : currency
.... do.	for	149	Florins Effective
Frankfort.....	for	149	..... do.
Leipzic.....	for	$148\frac{1}{2}$	..... do.
Augsburg	for	148	..... do.

Prices of Gold and Silver. As before observed, Gold in Bars, is sold by the standard ducat, and the quotation of the price is usually thus; Ducats al Marco, $99\frac{3}{4}$ sh : meaning that so many shillings Banco are the worth of Gold either in bars or ducats, sold by weight, for each mark Cologne, of the purity of $23\frac{1}{2}$ carats.

The prices of silver bullion given with the above quotation of the courses of Exchange, were as follows.

Silver in Bars.	4 a 5 loths 6 a 7 do.	no price given.	
	12 a 15 do. .. Mks. 27 6 a 8		The Mark fine in Banco.
Fine Silver	27 10		

Of which it may be observed, that silver, although sold according to only the fine metal contained in the Ingot, is less valuable per fine Mark when in an impure state, than when it has undergone the process of refining.

The quotations of the values of the Coins are in the following forms :

Sleswick, or Holstein Specie, $\frac{1}{4}$ per Cent. } better than Banco.
New Ducats..... $4\frac{1}{4}$ ..... }

which implies that the Holstein Specie Rix Dollars, which are commonly reckoned at 3 Marks Banco, or 3 Marks 12 Shillings Current, were worth $\frac{1}{4}$ per Cent more than Banco, and new Ducats of 6 Marks Banco, or $7\frac{1}{2}$ Marks current, were rated at $4\frac{1}{4}$ per Cent.

Frederick s D'Or, or Louis D'Or...10 Marks $14\frac{3}{8}$ Sh. Banco for each piece

Hamburgh Currency .... $22\frac{3}{4}$
Danish Grob Currency.. $24\frac{3}{4}$
New 2-3rd Pieces..... $30\frac{7}{8}$ } Per Cent worse than Banco.
Louis & Frederick D'Or $37\frac{5}{8}$

According to this quotation, 100 Marks Banco were worth $122\frac{3}{4}$ Marks Hamburgh Currency ; or $124\frac{3}{4}$ Marks Danish Currency ; or $130\frac{7}{8}$ Marks reckoned in 2-3rd Pieces or Zweydrittels, or $137\frac{5}{8}$ Marks reckoned in Louis D'Or, valued at 10 Marks 14 Shillings Banco each.

In the Bullion Courses are also given, the per Centage differences in value from Danish Currency, and from the value of 2-3rd pieces, of the other coins ; and also the current values of these coins, in Hamburgh money.

With the price of fine Silver is given that of Spanish Dollars, under the title of Pieces of Eight, but the general term for them is Piastres.—Their usual price is greater than that of uncoined Silver, or of any money current at Hamburgh excepting Ducats. The cause arises partly from their being coins of an acknowledged value, through every part of the world where money is used, and partly from the accommodation afforded by the Bank, of making advances exclusively upon Dollars. In the quotations before referred to, the price of fine Silver in Ingots was 27 Marks 10 Shillings, while for the fine Silver in Pieces of Eight, the price was 27 Marks $15\frac{1}{2}$ Shillings for the Mark fine in Banco.

Example 1.

To exchange £ 527 12 6 into Hamburgh Banco at the rate of 35 s 5 g.

	s.	g.			£.	s.	d.	
	35	5		or $\frac{1}{2}$....	527	12	6	
$\frac{1}{2}$....	425	grotes.		$\frac{1}{2}$....	263	16	3	for 10 *s.*
	527			$\frac{1}{12}$....	131	18	1	— 5 *s.*
	2975				10	19	10	— 5 *d.*
	850			$\frac{1}{2}$....	934	6	8	Flemish.
	2125				$7\frac{1}{2}$		40	shill.
$\frac{1}{4}$....	212	.... 10 *s.*			6538		2	8
	53	.... 2 *s.* 6 *d.*			467			
	224240	grotes.			2	8		
	sh. 112120			Marks	7007	8	sh.	
	Marks 7007	8						

Of these two methods, the first is more simple than the second, particularly when the sterling money is only given in Pounds.

In the second, the sterling is first converted into Flemish at the rate of 35 sh. 5 grotes, for £ 1 sterling; and the Flemish money is then exchanged into Banco at the rate of $7\frac{1}{2}$ Marks for £ 1 Flem. The shillings and grotes are exchanged into marks and shillings Hamburgh, at the rate of 6 shillings Hamburgh for 1 shilling Flemish, taking in the 8 grotes as 4 shillings Hamburgh; this produces 40 shillings Hambro', or 2 Marks 8 shillings.

PROOF.

To exchange Marks 7007 8, Banco, into sterling, at the rate of 35 s 5 g.

	s.	g.		£		mks.	sh.	
If	35	5	produce	1	what will	7007	8	produce?
	425	grotes.				112120	sh.	
				£		224240	grotes.	
			425)	224240				
			Answer	£ 527	12 6	sterling.		

N. B.—A variation of 4 grotes in the rate of Exchange is generally considered as being 1 per Cent, or 9 grotes as 2 per Cent.

EXAMPLE 2.—CURRENT AND BANCO MONEY.

In the general calculations, Banco is exchanged into Current by per Centaging the rate of the Agio upon the Banco, and adding it in with the products; and Current is exchanged into Banco, saying as 100 with the Agio is to 100, so is the Current to the Banco.

The Agio at 20 per Cent is 1-5th of the Banco or 1-6th of the Current. and the Agio at 25 per Cent is 1-4th of the Banco or 1-5th of the Current.

To exchange Marks 4265 10 Current into Banco, at 20, 25, and 22¾ per Cent, Agio.

	Mks.	sh.			Mks.	sh.	
⅙ ..	4265	10	Current.	⅕ ..	4265	10	Current.
	710	15	Agio 20 p. Ct.		853	2	Agio 25 p. Ct.
Mks.	3554	11	Banco.	Mks.	3412	8	Banco.

(PROOF.)

	Mks.	sh.			Mks.	sh.	
⅕ ..	3554	11	Banco.	¼ ..	3412	8	Banco.
	710	15	Agio 20 p. Ct.		853	2	Agio 25 p. Ct.
Mks.	4265	10	Current.	Mks.	4265	10	Current.

	Mks.		Mks.		Mks.	sh.	
If	122¾	produce	100	what will	4265	10	produce?
	4					4	
	491				17062	8	

Mks.
491) 1706250

Mks. 3475 0 10 pf. Banco.

(PROOF.)

	Mks.	sh.	pf.	
⅕	3475	0	10	Banco.
⅛	695	0	2	Agio 20 per Cent.
1/10	86	14	0	2½
	8	11	0	¼
Mks.	4265	10	0	Current.

EXAMPLE 3.—PAR OF EXCHANGE.

To find the Par of Exchange in Silver.

$1\,£ = 20\,s$?

s 66	=	12 oz. Standard.
English Standard oz. 40	=	37 oz. Fine.
Oz troy 1600	=	213 Marks Cologne.
Mark fine 1	=	27 10 Marks = 442 sh. Bo.
1 Mark = sh. 16	=	32 grotes flemish.

$$\frac{32 \times 442 \times 213 \times 37 \times 12 \times 20}{16 \times 1600 \times 40 \times 66}$$

$$\frac{221 \quad 2}{8 \quad 50 \quad 11}$$

grotes.

221
213
47073
37
4400) 1741701

grotes 395.84 = 33 s very nearly.

According to the new Standard of the English Silver Coinage, the par of Exchange is 33 shillings flemish for £1 Sterling; according to the former Standard value, of 62 d per oz. it is

$$\frac{s\,33 \times 66}{62} = 35s\ 1\tfrac{1}{2} \text{ grotes.}$$

taking this as the proper par of Exchange, and considering the charges of bringing silver from Hamburgh to London, to be 2 per Cent or 9 grotes per £, the Commercial par of Exchange when silver in London is worth 62 d per oz. is about 35 s 10 grotes per £; or, it will require 35 s 10 g. to be laid out in Silver, at Hamburgh, to produce 1 £ sterling in London.

Example 4.—Price of Bullion.

To find the value of 600 Current Rix Dollars at 4 *s.* per oz. troy, with the value of Standard Silver per oz. and the equivalent rate of Exchange, the agio of Bank money being considered at 23 per Cent.

1 Curr Rix Doll. = 17 dwt. 16 gr. or, 60 Dollars = 53 oz. troy.

600 Dollars = 530 oz.

530 oz. at 4 *s.* per oz. = £ 106 value required.

			1 £	produce?
	£ 106	=	600	Rix Dollars Curr. (200)
(41)	Current 123	=	100	Banco.
Rix Dollar	Banco 1	=	8	Shill. Flemish.

106 × 800
41 × 200
4346) 160000

s. 36 $9\frac{1}{4}$ rate of Exchange.

The standard of the Hamburgh Mark being 12 loths fine, or 3 parts in 4, or 180 dwts. in an oz. troy of fine silver; we say,

If 180 dwts. produce 4 *s.* what will 222 dwts. produce?

222
180 –20 –) 888
8) 44 $4\frac{1}{4}$, 2

s. 4 11 –.8

It thus appears that at the rate of 4 *s.* per oz. for Hamburgh Silver, English Sterling Silver should sell for 4 *s.* $11\frac{1}{4}$ *d.* nearly, the above result being 8-10ths of a farthing.

Reversing the principles of the last calculation, we may find the value of Hamburgh Silver, when English Standard sells for 5 *s.* 2 *d.*

If 222 produce 5 *s.* 2 *d.* what will 180 produce?

The Answer to which is 4 *s.* $2\frac{1}{4}$ *d* per oz.

At this rate the Rix Dollar is worth 3 *s.* 8–.4 *d.*

Example 5.

Suppose a Bar of Gold, of 40 Marks weight, and of 21 carats 8 grains fineness, to be bought in Hamburgh at the price of 99 shillings Banco per Cologne Mark; and the amount to be drawn for upon this country, at the exchange of 35*s.* 9 grotes; it is required to find the net gain or loss attending this adventure, supposing the Gold to have been imported into this country, and to have been sold here at £ 3 17 $10\frac{1}{2}$ per standard ounce, the estimated charges being nearly 2 per Cent.

40 Marks?
Mark 1 = $21\frac{2}{3}$ Carats.
Carats $23\frac{1}{2}$ = 1 Mark Ducat Standard.
Mark 1 = 67 Ducats.
Ducat 1 = 99 Shillings Banco = 198 grotes.
429 *g.* = shil. Fl. 35 9 = 1 £ Sterling.

$$\frac{1\,£ \times 198 \times 67 \times 21\frac{2}{3} \times 40}{429 \times 23\frac{1}{2}} = £\frac{11497200}{10081.5} = £\,1140\ \ 8\ \ 6$$

40 Marks Cologne?
Marks 100 = 752 oz. troy fine.
oz. 1 = $21\frac{2}{3}$ carats fine.
Fine carats 22 = 1 oz. English standard.

$$\text{oz.}\ \frac{752 \times 21\frac{2}{3} \times 20}{11} = 296\ \text{oz.}\ \ 4\ \text{dwts.}$$

296 oz. 4 dwts. at £ 3 17 $10\frac{1}{2}$ =	£1153	7 5
less 2 per Cent. =	23	1 4
Net Proceeds ...	1130	6 1
Cost as above	1140	8 6
Loss	£ 10	2 5

FROM THE FOLLOWING COURSES OF EXCHANGE AT HAMBURGH AND LONDON, TO FIND AN ARBITRATED VALUE OF THE £ STERLING.

Course of Exchange at London...Amsterdam..... 12 3
Paris..... 25 85
Frankfort ..... 153 Hamburgh
Vienna..... 10 5 · 36 9
Madrid 35½
Oporto..... 53½
Genoa..... 43¾
Leghorn 47¾

Course at Hamburgh .....Amsterdam..... 105,7-8ths
Paris..... 25½
Frankfort..... 149 London
Vienna..... 149 35 9½
Madrid..... 88½
Oporto..... 38,3-8ths
Genoa 80
Leghorn 87½

Amsterdam 1 £ ?

£ 1 = 12 flo, 3 st. = 243 st.*
st. 50 = 1 R. Dollar, Dutch.
Dutch,* R. D. $105\frac{7}{8}$ = 100 R. D. Banco.
R. D. Banco 1 = 8 shill. flemish.

243
16

$\frac{8 \times 100}{50}$ = 16 fixed number 105,875) 3888

36 8½

Difference from Direct remittance 1-8th per Cent lower.

Paris 1 £ ?

£ 1 = 25 fr. 85 cents.
3 = 25½ shillings = 51 grotes.

grotes.
25 , 85
51 ÷ 3 = 17

grotes 439,45 = sh. fl. 36 7½ grotes.

Difference from Direct course 3-8ths per Cent lower.

Frankfort 1 £ ?

£ 1 = 153 Batzen.*
Batzen 90 = 4 Rix Dollars.
R.D. * 149 = 100 Rix Dollars Banco.
Rix D. B. 1 = 8 shill. flemish.

1341,0) 48960,0

shillings 36 6 *g.*

Difference from the Direct course 3-4ths per Cent lower.

VIENNA.

1 £

£ 1 = 10 florins 5 cruitz = 605 cruitz
9,0 cruitzers = 1 Rix dollar
149 Rix Dollars = 10,0 R. D. Banco
1 R, D. Banco = 8 shillings flemish.

605 *s.*
80

1341) 48400

s. 36 1 g

Difference from direct Remittance 2 per Cent lower.

Madrid

1 £? = 240 d
35½d = 1 Dollar = 272 marav:
375 mar. = 1 Ducat = 88½ grotes

16
240 × 272 / 375 / 25 = 174.08

174 . 08
88½

35 . 5) 15406.08

grotes 434 = 36*s.* 2*g.*

Difference from direct remittance 1¾ per cent lower.

Oporto

1 £? = 960 f.
f. 214 = *d.* 53½ = 1000 reis
reis 400 = 38⅜ grotes

8

9600,00 / 4,00 = 2400

307
300

214) 92100

grotes 430 = 35*s.* 10*g.*

Difference from direct remittance 2¾ per cent lower.

Genoa

1 £? = 960 farthings
f. 175 = 43¾ *d.* = 1 Pezza
1 Pezza = 80 grotes

960

175) 76800

grotes 438½ = 36*s.* 6½ g.

Difference from direct remittance 5-8ths per cent lower.

Leghorn

1 £? = 960 f.
f. 191 = d 47¾ = 1 Pezza
1 Pezza = 87½ grotes

8

700
120

191) 84000

grotes 439½ = s. 36 7½ g.

Difference from direct remittance 3-8ths per cent lower.

TABLE

OF THE

COURSES OF EXCHANGE.

According to the prices of standard Silver in London, reckoning the mark of fine silver at Hamburgh, to be worth 27 Marks, 10 shillings Banco.

Price of Silver.	Course of Exchange.	Price of Silver.	Course of Exchange.
s. *d.*	*s.* *g.*	*s.* *d.*	*s.* *g.*
4 10	37 $6\frac{1}{4}$ 7-10ths.	6 0	30 $2\frac{3}{4}$ 3-10ths.
$10\frac{1}{2}$	37 $2\frac{1}{2}$ 3	$0\frac{1}{2}$	30 $0\frac{1}{4}$ 5
11	36 $10\frac{3}{4}$ 2	1	29 $9\frac{3}{4}$ 7
$11\frac{1}{2}$	36 7 3	$1\frac{1}{2}$	29 $7\frac{1}{4}$ 1
5 0	36 $3\frac{1}{4}$ 6	2	29 5 7
$0\frac{1}{2}$	35 $11\frac{3}{4}$ 2	$2\frac{1}{2}$	29 $2\frac{1}{2}$ 3
1	35 $8\frac{1}{4}$ 1	3	29 $0\frac{1}{4}$ 1
$1\frac{1}{2}$	35 $4\frac{3}{4}$ 2	$3\frac{1}{2}$	28 10
2	35 $1\frac{1}{4}$ 4	4	28 $7\frac{3}{4}$
$2\frac{1}{2}$	34 10	$4\frac{1}{2}$	28 $5\frac{1}{2}$ 1
3	34 $6\frac{1}{2}$ 7	5	28 $3\frac{1}{4}$ 2
$3\frac{1}{2}$	34 $3\frac{1}{4}$ 6	$5\frac{1}{2}$	28 1 3
4	34 0 8	6	27 $10\frac{3}{4}$ 7
$4\frac{1}{2}$	33 9 1	$6\frac{1}{2}$	27 $8\frac{3}{4}$ 2
5	33 $5\frac{3}{4}$ 7	7	27 $6\frac{1}{2}$ 8
$5\frac{1}{2}$	33 $2\frac{3}{4}$ 4	$7\frac{1}{2}$	27 $4\frac{1}{2}$ 4
6	32 $11\frac{3}{4}$ 3	8	27 $2\frac{1}{2}$ 2
$6\frac{1}{2}$	32 $8\frac{3}{4}$ 4	$8\frac{1}{2}$	27 $0\frac{1}{2}$ 1
7	32 $5\frac{3}{4}$ 7	9	26 $10\frac{1}{2}$ 1
$7\frac{1}{2}$	32 3 1	$9\frac{1}{2}$	26 $8\frac{1}{2}$ 2
8	32 0 7	10	26 $6\frac{1}{2}$ 4
$8\frac{1}{2}$	31 $9\frac{1}{4}$ 5	$10\frac{1}{2}$	26 $4\frac{1}{2}$ 6
9	31 $6\frac{1}{2}$ 4	11	26 $2\frac{3}{4}$ 0
$9\frac{1}{2}$	31 $3\frac{3}{4}$ 6	$11\frac{1}{2}$	26 $0\frac{3}{4}$ 5
10	31 1 8	7 0	25 11 1
$10\frac{1}{2}$	30 $10\frac{1}{2}$ 2	$0\frac{1}{2}$	25 9 6
11	30 $7\frac{3}{4}$ 8	1	25 $7\frac{1}{4}$ 4
$11\frac{1}{2}$	30 $5\frac{1}{4}$ 3	$1\frac{1}{2}$	25 $5\frac{1}{2}$ 2
		2	25 $3\frac{3}{4}$ 1

These courses will require a correction of about 7 grotes, for the difference of the expense in exporting or importing Bullion, instead of employing Bills of Exchange.

THE NETHERLANDS.

The present money of account in the northern provinces of this country is, guilders, stivers, and pfenings; and as at Hamburgh, the flemish shillings and grotes are also used in Exchanges.

1 Florin or Guilder = 20 Stivers.
1 Stiver ..... = 12 pfenings, or 2 grotes flemish.

Some of the Dutch Exchanges are reckoned in the Rix Dollar of $2\frac{1}{2}$ Guilders, or 50 Stivers, or 100 grotes flemish.

In Flanders, or in the southern provinces, the Florin is also used, but until lately a distinction was made between the current Florin, and the florin of Exchange, current florins being reckoned as equal to only 6 Florins of Exchange. The French franc is also current in Flanders, and by many houses it has been made the money of Account. The comparative values of these monies were as follows.

800 Francs = 441 Current Florins = 378 Florins of Exchange

The inconveniences necessarily experienced from these variations and distinctions in the money, and from similar differences in the weights and measures, have induced the present government to form them all upon general standards, and for the sake of simplicity to adopt the French mode, or the decimal notation, with the standards of weights and measures now used in France.

The former names are to be retained, and the new regulations are to be carried into effect, on the 1st of January, 1820.

The new money.

1 Guilder = 100 Cents.

The French franc is permitted to circulate for $47\frac{1}{4}$ cents.

or 100 Francs = 47 Guilders 25 cents.
making 100 Guilders = 211 Francs 64 cents.

WEIGHTS.

Dutch.			French.	grains troy.
1 Pond	= 10 Onsen	= 1 Kilogramme	=	15446
1 Ons	= 10 Loaden	= 1 Hectogramme	=	1544.6
1 Lood	= 10 Wigties	= 1 Decagramme	=	154.46
1 Wigtie	= 10 Korrels	= 1 Gramme	=	15.446

The new Dutch Pond will be nearly equal to 2 lb. 3 oz. Avoirdupois.

MEASURES OF LENGTH.

Dutch.			French.	English Inches.
1 Mile	= 100 Roods	= 1 Kilometre	=	39369.4
1 Rood	= 10 Ells	= 1 Decametre	= ..	393.69
1 Ell	= 10 Palms	= 1 Metre	= ...	39.37
1 Palm	= 10 Duims	= 1 Decimetre	=	3.93
1 Duim	= 10 Streeps	= 1 Centimetre	=	.39

The new Dutch Mile will be nearly equal to 5 English Furlongs, and the Ell to 1 yard $3\frac{1}{2}$ inches.

MEASURES OF CAPACITY.

Dutch.			French.	Cubic Inches.
1 Vat or Mudde	= 10 Schepels	= 1 Hectolitre	=	6102.06
1 Schepel	= 10 Kannen or Kops	= 1 Decalitre	=	610.21
1 Kan	= 10 Moetjes	= 1 Litre	=	61.02
1 Moetje	= 10 Vingerhoods	= 1 Decilitre	=	6.10

The terms Vat and Kan are used for Dry Measures.

Mudde and Kop....for Liquid Measures.

A Last of 30 Mudde is to be used for the Measure of Grain.

The Square and Cubic measures, are deduced from those of length; they are, the square Palm, square Ell, and square Rood; with the cubic Palm, and the cubic Ell.

PRESENT GOLD AND SILVER WEIGHTS.

The Mark Troy is the weight by which Gold and Silver are sold; it contains 8 oz, or 160 engels, or 5120 asen.

In assaying of Gold, the mark is divided into 24 carats, the carat into 12 grains.

In assaying of Silver, the mark is divided into 12 dwts, the dwt into 24 grains.

According to the new standard,
100 asen = 4 wigties 8065-10000ths;
1 Mark = 246.0928 wigties, or 3801.08 grains troy.

1 Mark fine Gold = 406 Guilders 36 cents, or 71.663 Ducats
1 Mark fine Silver = 25 Guilders 59.7 cents.

According to the weights of fine Gold and Silver, contained in the new Coins, as given in page 515; the following rates are established for exchanging standard metals into Dutch Coins, and the reverse.

for 100 lb.	Sterling Gold.	for 100 Oz.
10 Guilders	5644.69	470.39
Ducats	9954.6	829.55

for 100 lb.	Sterling Silver.	for 100 Oz.
Guilders	3588	299
Rix Dollars	1415.41	117.95
Ducatoons	1131.02	94.25

Rates in standard lb. and oz. for 100 pieces of each Coin.

	10 Guilders	Ducats	Guilders	Rix Dollars	Ducatoons
Oz. Troy	21.2588	12.0546	33.4448	84.7809	106.175
lb. Troy	1.77157	1.00455	2.78707	7.06508	8.84795

In explanation of which we may say; 100lb of sterling Gold will produce 5644 $\frac{69}{100}$ Ten Guilders, or 100 Ten Guilder will contain 1 lb. and 77157-100000 ths of Standard Gold.

The following are Tables of the relations of the present and the proposed weights and measures.

Table I.—For the unity of the new weights and measures.

New.		Old.
The Duim	0.382231	Rhinland Duim.
Palm	0.3185256	..... Voet.
Ell	1.44043	Hague Ell.
"	0.265438	Rhinland Roede.
Pond	2.023921	Amsterdam Pond
Kan	0.412307375	Stoop
Vat	2.576921	Ankers of 16 Stoopen
"	0.644230	Aam of 64 "
"	0.42948685	Oxhoofd of 96 "
"	0.4405286	Turfton
"	0.458121	Kwardel
Mudde	0.898828	Mudde of 27 in a last
"	0.798958	Ton of 24 in a last
Last of 30 Mudde ...	0.998698	Amsterdam grain last

Table 2. For unity of the old weights and measures.

Old.		New.
Rhinland Duim	2.616221	Duimen
" Voet	3.139465	Palmen
Hague El.	6.94236	Palmen
Rhinland Roede	3.767358	Ellen
Amsterdam Pond	0.49409042	Pond
Stoop	2.425375	Kannen
Anker	0.38806	Vat.
Aam	1.55224	"
Oxhoofd	2.32835	"
Turfton	2.27	"
Kwardal	2.18283	"
Mudde	1.11256	Mudde of 100 Koppen
Ton of 24 in a Last ..	1.25163	Mudde
Last Amsterdam	1.001304	Last of 3000 Koppen

COINS.—The Currency of the kingdom is to consist, in Gold, of 10 Guilder Pieces. In Silver, of 3 Guilder Pieces, Guilders, half Guilders, and 25, 10 and 5 Cent Pieces. In Copper, of Cents and half Cents.

For purposes of Commerce or the use of private individuals, Gold Ducats, Silver Ducats or Rix Dollars, and Silver Ryders or Ducatoons, may also be coined, but they are not to be used in Accounts, nor are they to be reckoned as money of the state.

The established weight and fineness of these coins are as follows—

	Full Weight.			Fine.	
Gold.	Asen.	Wigties	or	Grammes.	Assay.
10 Guilders...	140	6.729		6.056	.900
Ducat	$72\frac{24}{35}$	3.494		3.434	.983
Silver.					
Guilder.....	224	10.766		9.614	.893
50 Cents.....	112	5.383		4.807	.893
25 Cents.....	88	4.230		2.406	.569
Ducat	$584\frac{1}{5}$	28.078		24.371	.868
Ryder.....	$677\frac{3}{4}$	32.574		30.521	.937

The weight and value of the principal of these Coins, according to the English Standard for Gold, and the estimated value of standard silver at 62 *d* per oz.; with the value per oz. troy of each of the Coins, are,

	Full Weight.		Fine.		Assay.	Value.		per oz.		
	dwts.	gr.	dwts.	gr.		*s*	*d*	£	*s*	*d*
10 Guilders	4	7.934	3	21.5	W. $1\frac{1}{2}$ g.	16	$6\frac{1}{2}$	3	16	5
Ducat.....	2	5.967	2	5	B. 1c $2\frac{1}{2}$ g.	9	$4\frac{1}{2}$	4	3	5
Guilder....	6	22.288	6	4,5	W. $7\frac{1}{2}$ dwts.	1	$8\frac{3}{4}$		4	$11\frac{1}{4}$.6
Rix Dollar	18	1.684	15	16.4	W. $13\frac{1}{2}$ dwts.	4	$4\frac{1}{2}$		4	10-.7
Ducatoon	20	23.128	19	15.4	B. $2\frac{1}{2}$ dwts.	5	$5\frac{3}{4}$		5	$2\frac{3}{4}$.1

The quantity of the fine Silver in the 25, 10, and 5 Cent pieces, is nearly proportionate to that in the Guilder; but as there is a much greater proportion of alloy, the full weight is considerably increased.

According to the Standard of the 10 Guilder and Guilder Pieces,

The Gold Ducat is worth 5 Guilders 67 Cents or 13 stivers.
The Silver Ducat, or Rix Dollar 2 ..... 53 ..... or 10 stivers.
The Ryder, or Ducatoon ..... 3 ..... 17 ....., or 3 stivers.
The relative values of Fine Gold and Silver are as 15.875 to 1.

In the Dutch Accounts Current it is generally stated that at Amsterdam an Aam is about 42 Gallons English.

Anker	$10\frac{1}{2}$	"
Virtel	2	"
Mingel	$\frac{1}{3}$	"
Kwardel	64	"
Last of Corn	85	Bushels.
Sack	$2\frac{1}{4}$	"
Barrel	$3\frac{3}{4}$	"

100 lb. Dutch heavy weight..109 lb.
At Antwerp..... 108 lb.....112 lb.
$3\frac{1}{2}$ Litres .....1 Gallon.

The relation which the principal of the new and old weights and measures of the Netherlands, bear to those which are similar in this country, are as follows:

By the new measures a Last of 30 Mudden = $85\frac{14}{100}$ Bushels.
old measures an Amsterdam Last.. = $85\frac{2}{100}$ Bushels.

100 Koppen	26.406	Wine Gallon	21.638	Ale Gall.
100 Stoopen	64.075	"	52.487	"
100 Ponden, new.....220.65	lb.	Avoirdupois.		
100 ..."....".....	268.15	Troy.		
100 ..."..Amsterdam	108.95	Avoirdupois.		
100 ..."....".....	122.40	Troy.		

100 Wine Gallons English	= 378.7	Kops or Kannen—new.	
	or 156	Stoopen .....old.	
100 lb. Avoirdupois.....	= 45	Ponden 35 looden, new.	
	= $91\frac{1}{4}$	Amsterdam..... old.	
100 lb. Troy	= 37	Ponden 292 wigties, new.	
	= 151	Marks 68-100ths, old.	
89 oz. Troy	= 90	oz. Dutch Troy, or	
164 oz. Standard Gold ...	= 19	Marks Dutch Troy, fine Gold.	

BANK OF AMSTERDAM.—Previous to the revolution in Holland in 1795, this Bank was constituted similarly to the Bank of Hamburgh; Specie or Bullion being deposited by the Merchants, and the payments being made by transfers from one account to another, and for most large sums it was obligatory to pay in Banco.—Since that period, the Bank, as to its particular money may be considered to have been only nominally re-established, as all payments are made in Currency.

COURSES OF EXCHANGE.—At present the courses of Exchange at Amsterdam, and Rotterdam differ, in the former being expressed in Banco, with the fixed Agio of 2 per Cent, and the latter being given in Currency. The list at Amsterdam was lately as follows.

London..2 usance.... 38*s* 9 g. flemish for £1 Sterling.
Paris.... " ..... 55⅞ grotes for 3 Francs.
Madrid 3 months eff. 95¼ grotes for 1 Ducat of Exchange.
Lisbon..... 41¼ grotes for 400 reis.
Genoa..... 86 grotes for 1 Pezza of 5¾ Lire.
Leghorn..... 94¼ grotes for 1 Pezza of 8 Rials.
Naples..... 76 grotes for 1 Ducat.
Augsburg. 6 weeks ... 34⅞ stivers for 1 Florin of Exchange.
Frankfort—Mayn.... 34¾ stivers for 1 Florin.
Hamburgh. 2 months. 34⅜ stivers for 2 Marks Banco.

To these rates is to be added the 2 per Cent for the fixed Agio, for which reckoning 9 grotes, it would make the rate for London to be 39*s* 6 g. Currency, per £ Sterling, which was the rate quoted at Rotterdam for the same day.

The prices of Gold and Silver, on the day of the above quotation were—

Gold in Bars. } 11½ to 12 per Cent premium.
Money. }

Silver of 11 to 12 p. flor. 25.6 to flor. 25.16 per Mark fine.
Spanish Dollars ....50 to 51 stivers each.

Of this quotation of the course of Gold, it is to be observed, that the premium is from 11½ to 12 per Cent, upon the fixed price of 355 florins for each mark weight of fine Gold.

Silver of the purity of 11 dwts, or 11 parts fine out of 12 parts metal, as well as fine Silver or that of the report of 12 dwts, was sold at the given prices per Mark weight fine. Piastres or Spanish Dollars sold at the given prices for each Dollar.

Usances for Bills—From Germany and Switzerland, 14 days sight. London and Paris one month's date. Italy Spain and Portugal, 2 months' date. The time is now more usually expressed upon the Bills.

Example 1.

To exchange £842 16 6 Sterling into Florins, &c. at 11 flo. 17 st.

	F.	s.	p.	
$\frac{1}{10}$....$\frac{1}{2}$....842	16	8	Amount at 1 Guilder per £.	
		11		
	9271	1	8	..... 11 G.
$\frac{1}{2}$....421	8	4	..... 10 st.	
	210	14	2	 5
	84	5	10	 2
Florins	9987	9	8	* 8 pfen = $\frac{1}{2}$ stiv. for 6 pence.

(or)

Flor. 11.85 * Cents for 1 £.

842

23 70

474.0

9480

5.92 for 10*s*

2.37 .. 4*s*

1.48 .. 2*s* 6*d*

Flor. 9987.47 Cents

(or)

£

842.825

11.85

4214,125

67426,00

84282,5

842825

Flor. 9987,47 Cents.

* 1 Stiver = 5 Cents.

(Proof.)

If F. 11 st. 17 produce £ 1 what will F. 9987 st. 9 p. 8 produce?

237 stivers. 199749½ stivers.

£ *s*

237) 199749 10

£ 842 16 8 sterling.

Example 2.

To exchange Florins 8830 16 st. into Sterling at 12 flo. 1 st.

	Flo. st.		£		Flo. st.	
If	12 1	produce	1	what will	8830 16	produce ?
	241 st.				176616 st.	

£

241) 176616

£ 732 16 $11\frac{1}{4}$ Sterling.

(or)

	Flo.		£		Flo. Cents.	
If	12.05	produce	1	what will	8830 80	produce ?

£

1205) 883080

£ 732 16 $11\frac{1}{4}$ Sterling.

(Proof.)

Flo.		£	*s*	*d*
732.847	for	732	16	$11\frac{1}{4}$
12.05				
3664,235				
879416,4				
Flor. 8830.80	Cents or	Flor. 8830	16	sti.

(or)

	Flo.	sti.	p*
$\frac{1}{20}$ ..	732	16	15
			12
	8794	3	4
	36	12	12
Flo.	8830	16	sti.

* $11\frac{1}{4}d$ or 45 farthings make 15 pennings at 3 farthings for 1 penning.

Example 3.

To exchange £ 1164 10 6 into Current Florins at the rate of 38 *s* 9 grotes.

	£		*s.*	*g.*		£	*s.*	*d.*	
If	1	produce	38	9	what will	1164	10	6	pro.?

465 grotes.
1164

1860
2790
5115

$232\frac{1}{2}$ for 10 *s.*
$11\frac{1}{2}$ for 6 *d.*

40) 541504 grotes.

Florins	13537	12	stivers.
	270	15	for 2 per Cent Agio.
Florins	13808	7	Current.

(or)

38 *s* 9 *g* = 465 grotes = flo. 11 $12\frac{1}{2}$ st.

Florins.
$\frac{1}{2}$.... 1164.525* amount at 1 flor.
11

12809.775 for 11 flor.
$\frac{1}{4}$.... 582.262 .. 10 sti.
145.565 .. $2\frac{1}{2}$ sti.

Florins.	13537.602	Banco.
	270.752	Agio. See page 517.
Florins	13808 .35	cents.

* For £ 1164 and 10 *s.* 6 *d.*

Example 4.

Suppose Gold to be bought in London at 78s. per ounce standard, and to be sold in Holland at 355 florins per mark fine, with the Agio of 12 per cent; what rate of Exchange does this establish, supposing the charges to be 2 per cent?

1 £ or 20s.
78 *s.* ...=... 1 oz. Standard.
Standard 164 oz....=... 19 Marks fine, present weight.
fine 1 Mark = 355 florins.
3 flo. = 10 shill. flem.

355
19
3195
355
82) 6745 (822,56
185
210
460
500
..8

Gs.
822.56 fixed number for Guilders.
82.25 for 12 per cent less 2 per cent.
78) 904.81
Guilders 11.60 cents—Rate required.

sh.
3) 8225.6
2741.86 fixed number for shillings.
274.18 10 per cent.
78) 3016.04
shillings flem : 38.8 g. Rate required.

Example 5.

To find the par of Exchange with Holland at the Standard value of Gold, and the estimated value of Silver at 62 Pence per Ounce.

1 £ ?

£ 1869 = 4,0 lb. Standard.
(3) Standard lb. 12 = 11 fine.
lb. 1,00 = 37292 wigties.
wigties 6.056 = 10 Guilders.
3

18.166	Gs. 37292	
1869	11	
33955,992)	410212000 (	G. c: 12.08 par of Gold.
	.70652080	
	.274009600	&c.

20 *s.* ?

s. 62 = 1 lb. Standard.
(12) Standard 240 = 222 fine.
lb. 100 = 37292 wigties.
wig. 9.614 = 1 Guilder.
12

115368	Gs. 37292	
62	222	
715281,6)	8278824,0 (	Gs. cents. 11.57 par of Silver.
	11260080	
	41072640	&c.

* If the rates given in page 513 be used,
5644.69 × 4 ÷ 1869 = 12.08 and
358.8 ÷ 31 = 11.57 as above.

THE FORMS OF THE CALCULATIONS FOR THE FOLLOWING TABLE.

1000 Guilders = 346 oz. troy at 4 *s.* 6 *d.* per oz. = £ 77 17.
The full weight of 1000 new Guilders is oz. 346 8 dwt. 16 gr.

240 *d*?
d. 54 = 1 oz.
oz. 346 = 1000 Guilders.

346) 24000 (.693 fixed number.
3240 &c.

Guild. G. cents.
54) 693 (12 84 rate of Exchange.
153 &c.

1 Ducat = 5 Guild. 67 cents.

G. c. £ G. c.
If 12 84 produce 1 what will 5 67 produce?

1284) 567. £

£ 0 8 10 Value of 1 Ducat.

grains. *s.* *d.* £ gr.
If 53,9 produce 8 10 or .4416 what will 480 produce?

480

53,9) 211,9680

Answer £ 3 18 7¾ rate of Ducat Gold.

Duc. Stand. £ *s.* *d* £ Eng. Stand.
If .983 produce 3 18 7¾ or 3.9322 what will .9166 produce?

9166

983) 3604.25452

Equivalent Rate £ 3 13 4 *d* of English Standard.

TABLE.

OF THE VALUE OF 1000 GUILDERS AT DIFFERENT RATES PER OZ.

THE RELATIVE COURSES OF EXCHANGE,

THE CORRESPONDING VALUES OF NETHERLAND DUCATS, AND THE EQUIVALENT RATES PER OZ. OF ENGLISH STANDARD GOLD.

1000 Guilders = 346 oz.

Rates per oz.		Value.			Course of Exchange.		Value of the Ducat.		Rate of Ducat Gold.			Rate of Standard Gold.		
s	*d*	£	*s*	*d*	*G*	*c*	*s*	*d*	£	*s*	*d*	£	*s*	*d*
4	6	77	17	0	12.84		8	10	3	18	$7\frac{3}{4}$	3	13	4
	$6\frac{1}{2}$	78	11	5	12.72		8	11	3	19	$4\frac{3}{4}$	3	14	$0\frac{1}{4}$
	7	79	5	10	12.60		9	0	4	0	$1\frac{1}{4}$	3	14	$8\frac{3}{4}$
	$7\frac{1}{2}$	80	0	3	12.49		9	1	4	0	$10\frac{1}{2}$	3	15	$4\frac{3}{4}$
	8	80	14	8	12.38		9	2	4	1	$7\frac{1}{2}$	3	16	$1\frac{1}{2}$
	$8\frac{1}{2}$	81	9	1	12.27		9	3	4	2	$4\frac{1}{2}$	3	16	$9\frac{3}{4}$
	9	82	3	6	12.16		9	4	4	3	$1\frac{1}{4}$	3	17	6
	$9\frac{1}{2}$	82	17	11	12.05		9	5	4	3	$10\frac{1}{4}$	3	18	$2\frac{1}{2}$
	10	83	12	4	11.95		9	6	4	4	$7\frac{1}{4}$	3	18	$10\frac{1}{2}$
	$10\frac{1}{2}$	84	6	9	11.85		9	$6\frac{3}{4}$	4	5	$1\frac{3}{4}$	3	19	$4\frac{3}{4}$
	11	85	1	2	11.75		9	$7\frac{3}{4}$	4	5	$10\frac{1}{2}$	4	0	1
	$11\frac{1}{2}$	85	15	7	11.65		9	$8\frac{3}{4}$	4	6	$7\frac{1}{2}$	4	0	$9\frac{1}{2}$
5	0	86	10	0	11.55		9	$9\frac{3}{4}$	4	7	$4\frac{1}{2}$	4	1	$5\frac{1}{2}$
	$0\frac{1}{2}$	87	4	5	11.46		9	$10\frac{3}{4}$	4	8	$1\frac{1}{4}$	4	2	$1\frac{3}{4}$
	1	87	18	10	11.36		9	$11\frac{3}{4}$	4	8	11	4	2	$10\frac{3}{4}$
	$1\frac{1}{2}$	88	13	3	11.27		10	$0\frac{3}{4}$	4	9	7	4	3	$6\frac{1}{2}$
	2	89	7	8	11.18		10	$1\frac{3}{4}$	4	10	4	4	4	$2\frac{3}{4}$
	$2\frac{1}{2}$	90	2	1	11.09		10	$2\frac{3}{4}$	4	11	0	4	4	10
	3	90	16	6	11.00		10	$3\frac{3}{4}$	4	11	10	4	5	$7\frac{3}{4}$
	$3\frac{1}{2}$	91	10	11	10.92		10	$4\frac{1}{2}$	4	12	$4\frac{1}{2}$	4	6	$1\frac{3}{4}$
	4	92	5	4	10.83		10	$5\frac{1}{2}$	4	13	$1\frac{1}{2}$	4	6	10
	$4\frac{1}{2}$	92	19	9	10.75		10	$6\frac{1}{2}$	4	13	$10\frac{1}{4}$	4	7	$6\frac{1}{4}$
	5	93	14	2	10.66		10	$7\frac{1}{2}$	4	14	$7\frac{1}{4}$	4	8	$2\frac{3}{4}$
	$5\frac{1}{2}$	94	8	7	10.58		10	$8\frac{1}{2}$	4	15	$4\frac{1}{4}$	4	8	$11\frac{3}{4}$
	6	95	3	0	10.50		10	$9\frac{1}{2}$	4	16	$1\frac{1}{4}$	4	9	$7\frac{1}{4}$
	$6\frac{1}{2}$	95	17	5	10.42		10	$10\frac{1}{2}$	4	16	10	4	10	$3\frac{1}{2}$
	7	96	11	10	10.35		10	$11\frac{1}{2}$	4	17	7	4	10	$11\frac{3}{4}$
	$7\frac{1}{2}$	97	6	3	10.27		11	$0\frac{1}{2}$	4	18	$3\frac{1}{2}$	4	11	8
	8	98	0	8	10.20		11	$1\frac{1}{2}$	4	19	$0\frac{3}{4}$	4	12	$4\frac{1}{4}$
	$8\frac{1}{2}$	98	15	1	10.12		11	$2\frac{1}{2}$	4	19	$9\frac{3}{4}$	4	13	1
	9	99	9	6	10.05		11	$3\frac{1}{2}$	5	0	$6\frac{1}{2}$	4	13	$8\frac{3}{4}$
	$9\frac{1}{2}$	100	3	11	9.97		11	$4\frac{1}{2}$	5	1	$3\frac{1}{2}$	4	14	$5\frac{1}{2}$
	10	100	18	4	9.90		11	$5\frac{1}{2}$	5	2	$0\frac{1}{2}$	4	15	$1\frac{3}{4}$
	$10\frac{1}{2}$	101	12	9	9.83		11	$6\frac{1}{2}$	5	2	$9\frac{1}{2}$	4	15	$10\frac{1}{4}$
	11	102	7	2	9.76		11	$7\frac{1}{2}$	5	3	$6\frac{1}{4}$	4	16	$6\frac{1}{4}$
	$11\frac{1}{2}$	103	1	7	9.69		11	$8\frac{1}{4}$	5	4	$0\frac{3}{4}$	4	17	$0\frac{1}{4}$
6	0	103	16	0	9.63		11	$9\frac{1}{4}$	5	4	$9\frac{3}{4}$	4	17	$8\frac{3}{4}$

FRANCE.

The former money of Account in this country consisted of Livres, sols, and deniers, and either these or the Ecu of three Livres was used in all Exchanges; but in 1795, shortly after the revolutionary government was established, the divisions of the money, and the weights and measures were entirely altered, and a systematic arrangement was introduced upon the decimal principles of separation.

The money of Account was ordered to consist of Francs and Cents, and the measures, &c. were regulated in the following manner.

In the first place, the ten millionth part of the distance from the Pole to the Equator, as determined by the measurement of the distance from Dunkirk to Barcelona, was fixed upon as the standard of the French measure, and was denominated the METRE.

A surface one metre in length, and one in breadth, was called an ARE; and a cube one Are in surface and one Metre in depth, was called a STERE for solid measure, and a LITRE for measures of capacity.

From the weight of a millionth part of a Litre of distilled water, at the temperature of 35 degrees of Fahrenheit's Thermometer, was formed a standard which was styled a GRAMME.

Prefixing to these Integers the terms.

Deca, Hecta, Kilo, and Myria for decimal collections,
and Deci, Centi, and Milli for decimal separations,
they produce for measures and weights,

Length.	Capacity.	Weight.
Myriametre	Myrialitre	Myriagramme
Kilometre	Kilolitre	Kilogramme
Hectometre	Hectolitre	Hectogramme
Decametre	Decalitre	Decagramme
METRE	LITRE	GRAMME
Decimetre	Decilitre	Decigramme
Centimetre	Centilitre	Centigramme
Millimetre	Millilitre	Milligramme

Thus taking a Gramme for the Integer, Ten Grammes make a decagramme, one hundred, a Hectogramme, &c., or the tenth part of a gramme, is a decigramme, the hundredth part, a centigramme, &c.

The Are, and the Stere are multiplied and separated in the same manner.

When these regulations were established, it was decreed that no other divisions, or terms should be employed; but some modification has since been made, or the terms of Livre, once, &c. are allowed to the half Kilogramme, &c. but in all official statements the new terms are retained.

The relations of these weights and measures to the English standards, have been given in the last department of this subject, as the new Netherland integers entirely correspond with the French; it may be repeated, that,

ONE METRE = 39.3694 English Inches, as it has recently been determined by the Royal Society.

	Inches.	Mi.	yards	ft.	in:
1 Myriametre	= 393694	= 6	375	2	10
1 Kilometre	= 39369.4	=	1093	1	9.4
1 Hectometre	= 3936.94	=	109	1	0.94
1 Decametre	= 393.694	=	10	2	9.694
1 Decimetre	= 3.93694	=			3.93694

Of the Cube of a Metre a thousandth part is taken as the standard of capacity, and the measure of the LITRE is 61.02058 Cubic Inches.

	cubic inches	Wine Gallons	Ale Gallons.
1 Myrialitre	610206	= 2641.58	= 2163.85
1 Kilolitre	61020.6	= 264.15	= 216.38
1 Hectolitre	6102.06	= 26.41	= 21.64
1 Decalitre	610.206	= 2.64	= 2.16
1 Decilitre	6.10206	= .026	= .022

The weight of a cubic centimetre of distilled water, is the standard of weight, and the GRAMME thus obtained has been determined to correspond with 15.4457 English grains troy.

	gr. troy.	lb.	oz.	dwt.	gr.	Av. lb.	oz.	dr.
1 Myriagramme =	154457 =	26	9	15	17. =	22	1	0.71
1 Kilogramme =	15445.7 =	2	8	3	13.7 =	2	3	4.87
1 Hectogramme =	1544.57 =		3	4	8.5 =		3	8.49
1 Decagramme =	154.457 =			6	10.5 =		–	5.65
1 Decigramme =	1.54457 =				1.5 =		–	0.56

The relations of the English Integers to these weights and measures, are

1 Yard	=	Metres	0.9144
1 Ell	=	——	1.1430
1 Fathom	=	——	1.8288
1 Mile	=	——	1609.3717

1 Pint, Wine.....	Litres	0.4732
1 Gallon, Wine.....	Litres	3.7856
1 Winchester Bushel..	Litres	35.2405

1 lb. Avoirdupois	=	453.2 grammes.
100 lb. Ditto.....	=	45.32 kilogrammes.
1 lb. Troy.....	=	372.919 grammes.

The COINS.—The Gold coinage consists of Twenty franc Pieces, now called New Louis D'Or, and lately Napoleons, with some few pieces of Forty Francs. The Silver Coins are, the Five, Two, One, Three-quarter, Half, and Quarter Franc Pieces.

The mintage weights, &c. of these Pieces are,

	Grammes.	Assay.	Fine Metal.
Gold, Twenty Franc..	6.4516	.900	gr. 5.806
Silver, Five Franc	25.0000	.900	22.500
One Franc	5.0000	.900	4.500

and all the other Pieces are in proportion.

Their corresponding weights, &c. in English Integers, are,

	dwt.	gr.	Assay.	Fine.	Value.		
Gold 20 Fr. ..	4	3.65	W, 1½ gr.	gr. 89.67	s. 15	10¼, 78	
Silver 5 Fr. ..	16	2.14	W. 6 dwt.	347.52	4	0½, 1	at 62 *d*
1 Fr. ..	3	5.23	W. 6 dwt.	69.50		9½, 8	

The relation of Gold to Silver is as 15½ to 1.

The French Standard Price of a Hectogramme of Gold is 310 Frs.
Kilogramme of Silver is 200 Frs.

COURSE OF EXCHANGE.—Quotation, 6th Sept. 1819.

PARIS.

In exchange with

Amsterdam..receives..56¼ grotes for 3 Francs
Hamburgh ..gives....187 Francs — 100 Marks Banco
London.....gives....24 f. 95 cents — 1 £ Sterling.
Madrid * ...gives....15 f. 35 cents — 1 Doubloon or 32 reals p.
Lisbon .....receives..534 reis..... — 3 Francs.
Genoa .....gives....473 cents ... — 1 Pezza of 5¾ Liré
Leghorn ....gives....515 cents ... — 1 Pezza of 8 reals.
Naples .....gives....420 cents ... — 1 Ducat del Regno.
Vienna.....gives....257 Francs .. — 100 Florins, Current.
Augsburg...gives....256 Francs .. — 100 Florins, Current.
St.Petersburggives....105 cents.... — 1 Ruble.
Berlin .....gives....372 Francs .. — 100 Rix Dollars.

With Venice, Frankfort, Antwerp, as well as with Lyons, Marseilles, &c, the Exchanges are reckoned by per centages of premiums or discounts.

BULLION COURSE.

Gold in Bars—fine, or 1000 in 1000....343 f. 44 c. per Hecto.
Standard—900 in 1000....309 f. 10 c. .....
20 and 40 Franc Pieces.....agio ....10 cents per Cent.
Spanish Doubloons or Quadruples .....82 f. 50 c. each.
Austrian and Dutch Ducats.....11 f. 75 c. each.
Silver in Bars .....986 in 1000....218 f. 50 c. per Kilog.
900 in 1000....198 francs.
Piastres or Spanish Dollars .....5 francs 40 cents each.

*In the reverse of this Course or the Exchange of Madrid upon Paris, it is reckoned in the former French money of Livres and Sols ; of which 81 Livres are now reckoned equal to 80 Francs.

USANCE.—The usance from Spain and Portugal is 60 days date, from other countries 30 days date. French Bills uniformly express the time for which they are drawn. The Days of Grace are 10.

Example 1.

To exchange £ 873 16 7 into Francs, at the rate of 25 Francs 35 Cents per £ Sterling.

	Francs.
$\frac{1}{5}\ldots\frac{1}{2}\ldots$	25.35
	873
	76,05
	177,45
	20280
	22130.55
$\frac{1}{4}\ldots\ldots$	12.675 for 10 *s.*
	5.07 .. 4 *s.*
$\frac{1}{30}\ldots\ldots\ldots$	3.168 .. 2*s.* 6*d.*
	.105 .. 1 *d.*
Francs	22151.57 cents.

	Francs.
	873.8291*
	25.35
	4369,1451
	26214,893
	2184572,75
F.	22151.57 cents.

*.8291 = for 16 *s.* 7 *d.* .8 for 16*s.* 7*d.* 0291 for 7*d.* viz. 7 ÷ 20 and 12 or 35 ÷ 12.

in this manner, the decimal value for any number of pence may be more correctly obtained, than by the general valuation Rule.

Example 2.

To exchange Fs. 22151 57 cents into £ Sterling, at the rate 25 Francs 35 cents.

	F.	c.		£		F.	c.	
If	25	35	produce	1	what will	22151	57	produce ?

£

2535) 2215157

Answer £ 873 16 7 Sterling.

Example 3.

When Gold, of the standard of 900 fine, is bought in Paris at the rate of 309 francs 10 cents, the Hectogramme, and sold in London at the rate of £ 3 17 $10\frac{1}{2}$ per standard oz, what rate of Exchange does this establish, supposing the charges to be $1\frac{1}{2}$ per Cent?

			1 £	
	£ 46.725	=	372.919	Grammes.
English Standard	1.000	=	.91666 &c.	Fine.
Fine.....	.900	=	1000	French Standard.
Grammes.....	100	=	309.10	Francs.

372.919
6.2153
62153
6215
621
62

379,82481
3,79824 } $1\frac{1}{2}$ per Cent.
1,89912 }

385,52217 fixed number.
309.10

4672,5) 119164,9027470

Francs 25.50 Cents.

Instead of adding the charges in the above manner, it is more usual to find a fixed number, without taking notice of them, and to allow them in the rate afterwards found, taking 25 Cents for 1 per Cent, $37\frac{1}{2}$ for $1\frac{1}{2}$ per Cent, &c, and adding them when the purchase is made in Paris, or subtracting them when it is made in London, and the sale is made in France.

Example 3.

To determine the par of Exchange between London and Paris, at the standard value of Gold, and the estimated value of Silver at 62 *d* per ounce standard.

1 £

£46 14 6 = 1 lb. English Standard.
lb. Standard 1 = .9166 &c. Fine.
lb. Troy 1 = 372.919 Grammes.
*gr. 0.2903 = 1 Franc.

	Francs.
46.725	372.919
.2903	.91⅔
13.5642675)	341.84241

Francs 25.20 Cents, Par in Gold.

1 £

£ 3 *s* 2 = 1 lb. English Standard.
lb. Standard 1 = .925 Fine.
lb. Troy 1 = 372.919 Grammes.
Grammes 4.5 = 1 Franc.

	Francs.
	372.919
	.925
3.1	9322975
4.5	3356271
13.95)	344,950075

Francs 24.73 Cents, Par in Silver.

* .2903 = 5.806 ÷ 12 see Page 527.

CALCULATIONS OF THE FOLLOWING TABLE.

The full weight of 1000 Five Franc Pieces is very nearly 804½ oz. troy, but as it is but seldom that they weigh more than 803 oz. when sold in this country, and they frequently do not weigh more than 801 oz. the medium of 802 oz. may be assumed as a general average.

To find the Value.

802 oz. of French Silver at 5 *s.* per oz.
produce £200 10.

To find the equivalent rate of Exchange.

	£	*s.*		Francs.		£	
If	200	10	produce	5000	what will	1	produce ?

Francs.
200.5) 5000

Francs 24 94 cents rate of Exchange.

To find the equivalent value of the new Louis D'or or 20 Francs.

1000 Five Franc Pieces = 250 Gold 20 Franc Pieces.

	Ps.		£	*s.*		P.	
If	250	produce	200	10	what will	1	produce ?
	4			4			
	1000		,802	0			

s. 16, 04

d. 0. 48-100ths of a *d.*

To find the equivalent rate per English oz. Troy, of French Standard Gold.

1 Oz?

Oz. 1 = 31.076 grammes.

Grammes 6.4516 = 16 *s.* 0.48 *d.*

6.4516) 31.0760 (4.817 nearly.

526960

108320

438040

pence.

s. 16 0.48 = 192.48

4.817 fixed number.

Pence 927,17616 = *s* 77 3 *d.* rate per oz.

To find the equivalent rate per oz. Troy, according to English Standard fineness.

d.

If .900 produce 927.17 what will .9166, &c. produce?

.900) .91666

1.0185 fixed number.

d.		*d.*
927.17	(or)	$\frac{1}{100}$..927.17 for 1.
1.0185		$\frac{1}{100}$ .. $\frac{1}{2}$ ...., 9.27 — .01
463585		$\frac{1}{2}$ .... 4.63 — .005
741736		2.31 — .0025
92717		.92 — .0010
92717		*d.* 944.30
d. 944.322645		*s.* 78 8$\frac{1}{4}$ rate per oz.

s. 78 8$\frac{1}{4}$ per oz.

TABLE

Of the value of 5000 Francs at different rates per oz. and the equivalent courses of Exchange; with the Rates of Twenty-Franc Pieces, and of French and English Standard Gold.

Silver per oz.		value of 5000 Francs.			Rate of Exchange.	value of 20 Fr. Ps.			Rates of French Gold per oz.			Rate of English Standard Gold.		
s.	*d.*	£	*s.*	*d.*	F. c.	*s.*	*d.*	100ths	£	*s.*	*d.*	£	*s.*	*d.*
4	9	190	9	6	26.25	15	2	86	3	13	5	3	14	9
	9½	192	2	11	26.02	15	4	45	3	14	0¼	3	15	4¾
	10	193	16	4	25.80	15	6	06	3	14	8¼	3	16	0¾
	10½	195	9	9	25.58	15	7	66	3	15	4	3	16	8½
	11	197	3	2	25.36	15	9	27	3	15	11¼	3	17	4½
	11½	198	16	7	25.15	15	10	87	3	16	7¼	3	18	0¼
5	0	200	10	0	24.94	16	0	48	3	17	3	3	18	8¼
	0½	202	3	5	24.73	16	2	08	3	17	11	3	19	4
	1	203	16	10	24.53	16	3	68	3	18	6½	4	0	0
	1½	205	10	3	24.33	16	5	29	3	19	2¼	4	0	7¾
	2	207	3	8	24.13	16	6	89	3	19	10	4	1	3¾
	2½	208	17	1	23.94	16	8	50	4	0	5¾	4	1	11¾
	3	210	10	6	23.75	16	10	10	4	1	1½	4	2	7½
	3½	212	3	11	23.56	16	11	70	4	1	9	4	3	3¼
	4	213	17	4	23.38	17	1	31	4	2	5	4	3	11¼
	4½	215	10	9	23.20	17	2	91	4	3	0½	4	4	7
	5	217	4	2	23.02	17	4	52	4	3	8¼	4	5	3
	5½	218	17	7	22.84	17	6	12	4	4	4¼	4	5	10¾
	6	220	11	0	22.67	17	7	72	4	4	11¾	4	6	6¾
	6½	222	4	5	22.50	17	9	33	4	5	7½	4	7	2½
	7	223	17	10	22.33	17	10	93	4	6	3¼	4	7	10¼
	7½	225	11	3	22.17	18	0	54	4	6	11	4	8	6¼
	8	227	4	8	22.00	18	2	14	4	7	6¾	4	9	2
	8½	228	18	1	21.84	18	3	74	4	8	2½	4	9	10
	9	230	11	6	21.68	18	5	35	4	8	10¼	4	10	5¾
	9½	232	4	11	21.52	18	6	94	4	9	6	4	11	1¾
	10	233	18	4	21.37	18	8	56	4	10	1¾	4	11	9½
	10½	235	11	9	21.22	18	10	16	4	10	9¾	4	12	5½
	11	237	5	2	21.07	18	11	77	4	11	5	4	13	1¼
	11½	238	18	7	20.93	19	1	37	4	12	1	4	13	9¼
6	0	240	12	0	20.78	19	2	98	4	12	8½	4	14	5
	0½	242	5	5	20.64	19	4	58	4	13	4¼	4	15	1
	1	243	18	10	20.50	19	6	18	4	14	0	4	15	9½
	1½	245	12	3	20.36	19	7	79	4	14	8	4	16	4¾
	2	247	5	8	20.22	19	9	39	4	15	3½	4	17	0½
	2½	248	19	1	20.08	19	11	—	4	15	11¼	4	17	8½
	3	250	12	6	19.95	20	0	60	4	16	6¾	4	18	4¼

To find the arbitrated course of Exchange from the following quotations at London and Paris.

	London.	25.85 on	Paris.
Amsterdam	12 2		$56\frac{1}{4}$
Hamburgh	36 9		187
Madrid	$35\frac{1}{2}$		15.35
Lisbon	$52\frac{1}{2}$		534
Leghorn	$47\frac{3}{4}$		5.15
Vienna	10 5		257

Amsterdam

£ 1 ?

£ 1 = 12.10 Guilders and Cents.

Guilder 1 = 40 Grotes.

Grotes 56.25 = 3 Francs.

12.10
120

Fr. c.

56.25) 145200 (25.80
32700 &c.

Hamburgh

1 £

£ 1 = 36 *s* 9 g. = 441 g.

Grotes 32 = 1 Mark.

Marks 100 = 187 Francs.

441

32,00) 824,67

Francs 25.77 Cents.

Madrid

1 £ = 240 Pence.

Pence 35.5 = 1 Dollar of Exchange.

1 Doubloon or, Dollars 4 = 15.35 Francs.

60 fixed number.

35.5) 921.00

Francs 25.94 Cents

Lisbon.

1 £ = 240 Pence.
Pence 52.5 = 1000 Reis.
Reis 534 = 3 Francs.

52.5 240000

28035,0) 720000

Francs 25,68 Cents.

Leghorn.

240 Pence?
Pence 47.75 = 5.15 Francs.

240

47.75) 1236.00

Francs 25.88 Cents.

Vienna.

1 £?
£ 1 = 10.5 Florins = $10\frac{5}{60}$ F.
Florins 100 = 257 Francs.

10

2570
21 for 1-12th.

Francs 25.91 Cents.

Upon comparing these arbitrated values, it appears, that of Bills bought in London, and sold in Paris, the lowest rate is obtained from Bills on Lisbon, and the highest from Bills upon Madrid. The former is about $\frac{3}{4}$ per Cent under, and the latter nearly $\frac{3}{8}$ per Cent above the direct remittance.

SPAIN.

The money of Account in Spain varies in different parts of the kingdom. In the North of Spain and in the greater part of the interior, the Real Vellon with its divisions into maravedies is universally used. At Cadiz the money of Account is Reals and maravedies of old Plate, and in the Southern Provinces it is the Libra, with its sueldos, and dineros.

The money of Exchange uniformly consists of Plate money, in either Dollars, Pistoles, or Ducats of Exchange.

1 Dollar = 8 reals = 272 mar. of Plate = 512 mar. Vellon.
1 Ducat = $11\frac{4}{34}$ reals = 375 .... " .... = 706
1 Pistole = 32 reals = 1088 .... " .... = 2048

The Dollar of Exchange is frequently called a Peso, or Piece of Eight; it corresponds with the Libra of the South of Spain. The real of plate is sometimes separated into 16 quartos, or 64 maravedies Vellon.

In the sale of some Goods as Cochineal, &c. the Ducat is uniformly reckoned at only 11 reals of Plate.

The Libra is thus separated.—

1 Libra = 20 Sueldos 1 Sueldo = 12 Dineros.

The principal Coins of Spain, called effective money, are

In Gold.

The Quadruple or Doubloon = 16 Hard Dollars.
The Pistole..... = 4 Hard Dollars,

with their divisions into halves, and quarters.

In Silver.

The Hard Dollar..... = 20 Reals Vellon.
The Real of Plate effective = 2 Reals Vellon.
The Real Vellon

The divisions of the Dollar into halves, quarters, fifths, eighths, and sixteenths, are also represented by Coins.

The Brass or Copper money consists of quartos of 8 maravedies, with 4, 2 and 1 maravedie pieces.

A paper currency called Vales Reales, has been made a legal tender for all payments unless particularly provided against; and it is therefore customary, in the drawing of Bills, to specify their being payable in effective and not in Vales Reales or any other paper money. They have lately borne a discount of nearly 90 per Cent.

The standards of the Doubloon and of the Dollar are as follows.

The quality of the Doubloon has undergone several variations in the Spanish coinages of different periods. That of Ferdinand the 6th and Charles the 3d agreed exactly with the English Standard; those coined from 1764 to 1772 were $1\frac{1}{2}$ grains, Worse; those of the fabrication of 1772, were $2\frac{1}{4}$ grains Worse; and since, they have varied in quality from as low as 1 carat 3 gr. Worse, to 1 carat worse; those of 1801 were either of this standard or of 1 carat $0\frac{3}{4}$ grains worse, but the general average of new Doubloons is reckoned at 1 carat, 1 grain worse than English Standard.

The Standard of the Spanish Dollar since the year 1772, has continued invariable at .896, or 7 dwts. worse, according to M. Bonneville, or at 8 dwts. worse according to the reports of the English Mint.

Reckoning the value of English Standard Silver to be 5 *s.* 2 *d.* per ounce, the value of the Dollar is 4 *s.* $3\frac{3}{4}$ *d.* and the value of the Doubloon or 16 Dollars, is 70 *s.* but as the relative values of Silver and Gold are reckoned in Spain differently from the proportion established by the above price of Silver and the Standard price of Gold, the value of the Doubloon according to the latter at the Standard of 5 grains worse is £3 3 $8\frac{1}{2}$; that is,

	Full Weight.		Assay.	Fine.		Value.		
	dwt.	gr.		dwt.	gr.	£	*s.*	*d.*
1 Doubloon...	*17	$8\frac{1}{2}$..	W. 1 c. 1 g...	15	0...	3	3	$8\frac{1}{2}$
1 Dollar.....	17	8 ..	W. 8 dwts. ..	15	10.9	0	4	$3\frac{3}{4}$

and according to the French reports

1 Doubloon =	gramm. 26.982	Assay. .872..	fine gramm.	23.528
1 Dollar	26.982	.... .896..	fine gramm.	24.176

* The weight of 17 dwts. 8.75 grains corresponds exactly with the French report, and the Dealers in Bullion generally consider 17 dwt. $8\frac{1}{2}$ gs. as the weight of the Doubloon; but they allow $\frac{1}{2}$ grain in the weight of the Dollar on account of its being a coin more in general use, and consequently more diminished in weight. In general, 1000 Dollars not much used, are reckoned to weigh 866 oz. 10 dwts. and those more worn, to weigh 866 oz.

WEIGHTS AND MEASURES.

1 Quintal = 100 Pounds = 102 lb. Avoirdupois.
1 Arroba = 25 Pounds = 25½ lb.
1 Pound = 16 Ounces.

The fanega of Cocao is 110 Pounds = 112 lb.
The fanega of Corn is measured and not weighed.
Five fanegas make about one quarter, or 8 Winchester Bushels.
The Arroba of Wine = 4¼ Wine Gallons English.
The Arroba of Oil = 26 lb. = 3⅓ Wine Gallons.
The Varra for measuring of Cloths = 3 feet = 33 Eng. Inches.
A Pipe of Wine of 117 Gallons .. = 126 Gallons English.

THE COURSES OF EXCHANGE.—The Courses of Exchange at Madrid were lately quoted in the following prices.

London....	37¾	Pence.....for ..	1 Dollar of Exchange.
Paris.....	15	Livres 14 Sols	1 Pistole of Exchange.
Amsterdam.	104	Rix Dollars current	100 Ducats of Exchange.
Hamburgh..	98½	Rix Dollars	100 Ducats of Exchange.
Lisbon.....2580		Reis	1 Pistole of Exchange.
Leghorn ...	125	Dollars of Ex.....	100 Dollars of Leghorn.

At Bilboa—The quotations at the same period, were,

London....	38½	Pence....per....	Dollar of Exchange.
Paris.....	15	Francs 37½ cents..	Pistole.

At Cadiz.

London....	38¾	Pence....per....	Dollar.
Paris.....	76	Sols.....per....	Dollar.
Genoa.....	108	Dollars...per....	100 Pezza, of 5¼ Lire.

At Malaga.

London....	39½	Pence.....per..	Dollar.
Paris.....	80	Sols .....per..	Dollar.
Hamburgh .	7	reals vellon per..	Mark Banco.
Amsterdam.	103½	R.D. current per..	100 Ducats.

The usance for Bills drawn from England, is 60 Days after date, except at Bilboa, where it is 2 months.

The Days of Grace at Cadiz are Six ; in the other parts of Spain they are fourteen.

Example 1.

To exchange £875 10 6 sterling into Reals Vellon and Hard Dollars at $35\frac{1}{2}$ *d.* per Dollar of Exchange.

	d		Doll.		£	*s.*	*d.*	
If	$35\frac{1}{2}$	produce	1	what will	875	10	6	produce?
	71				17510			
					2101	26		
			Dollars.		420252			

71) 420252

Dollars 5919 0 11

reals.		Drs.
$\frac{1}{17}$....5919	amount of	5919 at 1 real.
$15\frac{1}{17}$		
88785	.....	15 reals.
348. 6	.....	2 mar.
21	for 11 mar. of Plate.	
reals 89133.27		
Hard Dollars 4456 . 13 . 27		

(or)

d.		mar.		£	*s.*	*d.*	
If $35\frac{1}{2}$	produce	512	what will	875	10	6	produce?
71		420252		420252			half pence.
		840504					
		420252					
		2101260					

71) 215169024 (3030549 (89133.27 34)

..216 .310

390 &c. ..49 &c.

Reals Vellon 89133 27 m. = Hard Do. 4456.13.27

Example 2.

To find the value of 1000 Dollars, selling at 5 *s.* per oz.; with the equivalent rates of Exchange, the relative values of Gold and Silver, the price of Doubloons, and the rates of Spanish Gold per oz.

1000 Dollars = 866 oz. 10 dwts.

Oz. 866 10 dwts. at 5 *s.* = £ 216 12 6.

		1	Dollar of Exchange ?
Dollar.....	1	= 8	Reals of Plate.
Reals Plate ..	17	= 32	Reals Vellon.
Reals Vellon .	20	= 1	Hard Dollar.
Hard Dollars	1000	= £ 216 12 6 = 51990 *d.*	

$$\frac{8 \times 32}{340000} = .000753 \text{ nearly.}$$

pence.
51990
.000753 fixed number.

155970
259950
363930

39.148470

Equivalent Rate of Exchange, 39 pence per Dollar.

Nominal Relative Value of Gold and Silver..16 to 1
Average Report of Gold.....872
Report of Silver.....896

872.....16.....896
16

872) 14336

Proper relative Value 16.44 to 1.

Corresponding with the rate of 5*s.* per oz. for Dollar Silver, the price at which sterling Silver usually sells, is 5*s.* 2*d.* per ounce, and sterling Gold at £ 3 17 $10\frac{1}{2}$ per ounce. The value of the doubloon at the latter rate is thus found.

15 dwts fine? (see Page 538)

fine 11 = 12 Standard

Standard dwts. 20 = £3 17*s.* $10\frac{1}{2}$ *d.*

9

11) 35 0 $10\frac{1}{2}$

Value of the Doubloon £ 3 3 $8\frac{1}{2}$.363

Making a variation of..... *d* $6\frac{1}{4}$.486 for every $\frac{1}{2}$ *d.* in the price per oz, of dollar Silver.

To find the corresponding rate per oz. of Doubloon Gold.

dw.	g.		£	*s.*	*d.*		dwts.	
If 17	$8\frac{1}{2}$	produce	3	3	$8\frac{1}{2}$	what will	20	produce?

$416\frac{1}{2}$ g. 480 480 gr.

(416.5) 1529 0 0

price per oz. £ 3 13 5 of Spanish Gold.

Making a variation of *d.* $7\frac{1}{4}$.36 for $\frac{1}{2}$ *d* per oz. of Dollar Silver.

The price of Standard Gold being assumed at £3 17 $10\frac{1}{2}$ per oz. when Dollar Silver sells at 5 *s.* per ounce, the variation of $\frac{1}{2}$ *d.* per ounce in the latter makes *d* 7 $\frac{3}{4}$.15 the price of Standard Gold.

TABLE

f the Value of 1000 Dollars at different rates per Ounce, and of the equivalent Courses of Exchange, with the value of the Doubloon at the rate of £ 3 17 10½ per ounce of Standard Gold corresponding with 5 *s.* per ounce for Dollar Silver, and the equivalent rates of Doubloon and English Standard Gold.

Rate of Silver.	Value of 1000 Dollars.			Rate of Exchange.	Value of the Doubloon.			Rate of Doubloon Gold.			Rate of Standard Gold.		
d	£	*s.*	*d. f.*	*d. f.*	£	*s.*	*d. f.*	£	*s.*	*d. f.*	£	*s.*	*d. f.*
9	205	15	10,2	37	3	0	6,1	3	9	8,3	3	13	11,2
9½	207	11	11,3	37,2	3	1	0,2	3	10	4,1	3	14	7,2
10	209	8	1	37,3	3	1	7	3	10	11,2	3	15	3
10½	211	4	2,1	38	3	2	1,1	3	11	7	3	15	11
11	213	0	3,2	38,1	3	2	7,3	3	12	2,1	3	16	7
11½	214	16	4,3	38,3	3	3	2	3	12	9,2	3	17	2,3
0	216	12	6	39	3	3	8,2	3	13	5	3	17	10,2
0½	218	8	7.1	39,2	3	4	2,3	3	14	0,1	3	18	6,1
1	220	4	8,2	39,3	3	4	9	3	14	7,3	3	19	2,1
1½	222	0	9,3	40	3	5	3,1	3	15	3	3	19	9,3
2	223	16	11	40,2	3	5	9,3	3	15	10 1	4	0	5,3
2½	225	13	0,1	40,3	3	6	4	3	16	5,3	4	1	1,2
3	227	9	1,2	41	3	6	10,2	3	17	1	4	1	9,1
3½	229	5	2,3	41,2	3	7	4,3	3	17	8,2	4	2	5
4	231	1	4	41,3	3	7	11,1	3	18	3,3	4	3	0,3
4½	232	17	5,1	42	3	8	5,2	3	18	11,1	4	3	8,2
5	234	13	6,2	42,2	3	9	0	3	19	6,2	4	4	4,1
5½	236	9	7,3	42,3	3	9	6,2	4	0	1,3	4	5	0,1
6	238	5	9	43	3	10	0,3	4	0	9	4	5	8
6½	240	1	10,1	43,1	3	10	7	4	1	4,2	4	6	3,3
7	241	17	11,2	43,3	3	11	1,2	4	1	11,3	4	6	11,2
7½	243	14	0,3	44	3	11	7,3	4	2	7,1	4	7	7,1
8	245	10	2	44,1	3	12	2,1	4	3	2,2	4	8	3
8½	247	6	3,1	44,3	3	12	8,2	4	3	9,3	4	8	10,3
9	249	2	4,2	45	3	13	3	4	4	5	4	9	6,3
9½	250	18	5,3	45,1	3	13	9,1	4	5	0,2	4	10	2,2
10	252	14	7	45,2	3	14	3,2	4	5	8	4	10	10,1
10½	254	10	8,1	45,	3	14	9,3	4	6	3	4	11	6
11	256	6	9,2	46,1	3	15	4,1	4	6	10,2	4	12	1,3
11½	258	2	10,3	46,2	3	15	10,2	4	7	5,3	4	12	9,2
0	259	19	0	46,3	3	16	5	4	8	1,1	4	13	5,1
0½	261	15	1,1	47,1	3	16	11,2	4	8	8,3	4	14	1
1	263	11	2,2	47,2	3	17	5,3	4	9	3,3	4	14	8,3
1½	265	7	3,3	47,3	3	18	0	4	9	11,1	4	15	4,2
2	267	3	5	48,1	3	18	6,1	4	10	6,2	4	16	0,2
2½	268	19	6,1	48,2	3	19	0,3	4	11	2	4	16	8,1
3	270	15	7,2	48,3	3	19	7	4	11	9,1	4	17	4
3½	272	11	8,3	49,1	4	0	1,2	4	12	4,2	4	17	11,3
4	274	7	10	49,2	4	0	7,3	4	13	0	4	18	7,3
4½	276	3	11,1	49,3	4	1	2,1	4	13	7,1	4	19	3,2
5	278	0	0,2	50,1	4	1	8,2	4	14	2,3	4	19	11,1
5½	279	16	1,3	50,2	4	2	2,3	4	14	9,3	5	0	7
6	281	12	3	50,3	4	2	9	4	15	5,1	5	1	2,3

Example 3.

To find an arbitrated value of the Dollar of Exchange as produced by Bills purchased in London, and remitted to Madrid for sale there.

Quotation at London.

Amsterdam	12.5
Hamburgh	36.9
Paris	25.85
Leghorn	$47\frac{3}{4}$
Course Direct on Madrid	$35\frac{1}{2}$

Quotation at Madrid.

Amsterdam	104
Hamburgh	$98\frac{1}{2}$
Paris	15.14
Leghorn	125
Course Direct on London	$37\frac{3}{4}$

Amsterdam 1 Dollar or 272 ma.?
ma. 375 = Ducat 1 = 104 grotes flemish.
grotes 40 = 1 Guilder.
Guild. 12 st. 5 = 240 pence.

272

15,000) 65,280

4352 fixed number.
104

d.
12.25) 45608 (36, 9-10ths.
8510
11608 &c.

Difference from the direct Rate 1 *d* 4-10ths or nearly 4 per Cent.

The Rate of Exchange of Madrid upon Amsterdam, is sometimes explained as being so many grotes per ducat of Exchange, and at other times as being so many Dutch Rix Dollars for 100 Ducats of Exchange, but either way produces the same result, as 100 grotes make 1 Rix Dollar

Hamburgh.

1 Dollar or 272 mara.?
mar. 37500 or Ducats 100 = 98½ Rix Dollars.
Rix Dollar 1 = 96 grotes.
grotes 441 or *s* 36 *g*. 9 = 240 pence.

$\frac{240 \times 96 \times 272}{37500}$ = 167.1 fixed number.

98½

441) 16459,3

Pence 37 3-10ths.

Difference from the direct Rates 1 *d* 8-10ths or nearly 5 per Cent.

Paris.

1 Dollar.
Dollars 4 = 15 Liv. 14 Sols. = 15.7 Liv.
Livres 81 = 80 Francs.
Francs 25.85 = 240 Pence.

$\frac{240 \times 80}{4 \times 81}$ = 59.26 nearly, fixed number.

15.7

25.85) 930,382

Pence 36 very nearly.

Difference from direct Rate ½ *d* or nearly 1½ per Cent.

Leghorn.

1 Dollar?
Dollars 125 = 100 Pezza.
Pezza 1 = 47¾ pence.

Pence.
125) 4775 (38.2 pence.
1025
.250

Difference from direct Rate 2 *d*, 7-10ths or nearly 7 per Cent.

GIBRALTAR.

The money of account at this place is Hard Dollars, Reals and Quarts. 1 Dollar = 12 Reals 1 Real = 16 Quarts.

In common with the Hard or Spanish Dollar, usually styled a Cob, there lately was nominally used in accounts, a current Dollar of only 8 Reals, or $1\frac{1}{2}$ of which were equal to the Spanish Dollar. This is still retained in the exchanges of London upon this place, although several attempts have been made to alter this method, and, as at Gibraltar, to use the Hard Dollar in these calculations.

The weights and measures are chiefly those of Spain.

The exchanges of Gibraltar, are chiefly confined to London, and some of the Spanish ports particularly Cadiz and Malaga; the former are reckoned in pence sterling for the Spanish Dollar, and the latter, by a per centage of premium or discount; a Quotation of a Paris Course of Exchange was lately given at 5 francs, 35 cents per Spanish Dollar, when the premium on Dollars was from 4 to $4\frac{1}{4}$ per Cent.

To exchange £ 80 into Hard Dollars, at 36 *d* per Current Dollar, or 4 *s* 6 *d* per Hard Dollar.

	s		reals.		£	
If	3	produce	8	what will	80	produce?
			1600		1600 *s.*	
			3..12800			
			reals 4266	10 quarts.		
		Hard Dollars	355	6 10		

or	*s*	*d*		H.D.		£	
If	4	6	produce	1	what will	80	produce?
	9			H. D.		3200	sixpences.
				9) 3200			
			Hard Dollars	355	6 10		

PORTUGAL.

The money of account is called Reis, of which the thousands are separated and called Milreis. The Old Crusade of 400 reis, and the New Crusade of 480 reis are also used; the former chiefly in Exchanges, from which it is sometimes called the Crusade of Exchange.

The currency of the country consists of various Gold and Silver Coins, but payments of Bills and Accounts, are made in what is termed legal money, consisting of one half specie and the other half Government paper, which is at a considerable discount.

Weights.—The Gold and Silver weight is the Mark of 8 ounces, the ounce containing 8 outavas, 24 scruples, or 576 grains.

100 Portugal Marks = 61½ Pounds Troy.
100 Pounds Troy = 162.6 Portugal Marks.

The commercial weight is the Quintal of 4 Arrobas, each of 32 Pounds. 100 lb. Lisbon = 101⅕ lb. Avoirdupois, nearly.

The measures of capacity are—The Moyo, of 15 Fanegas or 60 Alquieres.

100 Alquieres of Lisbon = 38 Winchester Bushels.
Of Oporto = 48 ..... Bushels.

The Tonelada of Wine is 2 Pipes or 52 Almudes.

The Pipe of Lisbon Wine = 31 Almudes or 140 English Gallons.
Oporto Wine = 21 Oporto Almudes or 138 English Gallons.

In general, 2 Almudes of Oporto are reckoned equal to 3 Almudes of Lisbon.

The principal commercial measure of length is the Covado of 3 Palmas, or 2 Feet.

100 Covados = 72 English Yards.
100 Feet Por. = 108 Feet English.

COINS.—Gold.—The Gold Coins of Portugal previous to the year 1722, consisted of Dobras and Moidores of English Standard Fineness, passing current for 20 Milreis, and 4 Milreis; each also being separated into halves and quarters. Since that period, the fineness of the Coins has been diminished, and an alteration has been made in their values; the Dobra being valued at 24 Milreis and the Moidore at 4 Milreis 800 reis.

The coin now in general use is the Portuguese, or Joannese, or as they are commonly termed Six-Mil-Fours, being current at 6 Milreis 400 reis: they are reported by M. Bonneville, at 915 and 914, and estimated in England at $\frac{1}{4}$ grain worse than standard.—Both these Pieces and Moidores were some time since current in this country, the former at 36 *s.* and the latter at 27 *s.*; but they are now sold by weight, at the market price of such Gold.

The full weight of the Joannese is dwts. 9 4.7 grains or 14.288 grammes.

The reported fineness—$\frac{1}{4}$ grain worse, or 915 or 914.

The weight of fine metal is 201.8 grains or 13.066 grammes.

The value in sterling £ 1 15 $8\frac{1}{2}$.38.

The value, according to M. Bonneville, is very nearly 45 Francs.

Silver.—The Coins of this metal, are the new Crusade of 480 reis, and their divisions into halves, quarters, and eighths; with Testoons of 100 reis, and Vintens of 20 reis.

The full weight of the Crusade is 9 dwts. 7.9 grains or 14.501 grammes.

The reported fineness, is 7 dwts. worse, or .896.

The weight of fine metal is 200.68 grains, or 12.993 grammes.

The value in Sterling at 62 d. per Standard Ounce is 28 pence.

The above is the weight of a crusade of the coinage of 1792, that of 1795 being 14.607 grammes or 225.61 grains.

The nominal relative values of the Portuguese Gold and Silver Coins, are the same as those of Spain, or as 16 to 1.

COURSE OF EXCHANGE.

Lisbon gives to, or receives from

London	$55\frac{1}{4}$	pence for 1 Milrei.
Paris	510	reis for 3 Francs.
Amsterdam	41	grotes for 400 Reis.
Hamburgh	$39\frac{3}{8}$	grotes for 400 Reis.

As before observed, payments are made one half in effective, and one half in Paper, the discount upon which was lately about 20 per cent.

The usage for Bills from Spain is 15 days sight—from England 30 days sight; Germany and Holland 2 months date; France 60 days date; Italy three months date.

Days of Grace.—For those drawn from any part of the Portuguese dominions, 15 days: from all other places 6 days. None are allowed upon unaccepted Bills.

The price of Spanish Gold per ounce was lately quoted at 13 Mil 100 reis, to 13 Mil. 160 reis, and the price of the Spanish Dollar at 836 to 840 reis.

Reckoning the value of the Dollar at 4 *s.* 4 *d.* sterling, the value of a milrei at the price of this quotation is very nearly 62 *d.* in specie, or nearly $55\frac{3}{4}$ *d.* in legal money.

Example 1.

To exchange £ 752 17 6 into Reis, at 53½ *d.* per milrei.

	d		reis		£	*s*	*d*	
If	53½	produce	1000	what will	752	17	6	produce?
	107				15057 *s*			
					361380 h. p.			

	reis.	Mil. reis.
107)	361380000 (	3377.383
	403	
	828	
	790	
	410	
	890	
	340	
	19	

(Proof.)

	pence.		£	
½....	3377.383	or	⅕....3377.383	
	53			
	10132,149		½½.... 675.4766	for 4 *s*
	168869,15		¼.... 56.2897	.. 4 *d*
	1688,691		¾.... 14.0724	.. 1 *d*
			7.0362	.. ½ *d*
pence	180689,990		£ 752.8749	or 17 *s.* 6 *d.*
s	15057 6			
£	752 17 6			

Example 2.

To find the value of 100 Joannes or Six-Mil-Fours at £3 17 6 per oz.

100 Pieces?

Piece.... 1 = 14.288 grammes.

Grammes ..31.076 = 1 oz.

Oz. 45.977 at £3 17 6 = £178.160 = £178 3 2

To find the equivalent rate of Exchange.

	Mil reis.		£		reis.	
If	640.000	produce	178.160	what will	1000	produce?

£

64,0–8) 17.8160

8) 2.227

£ 0.278 = *s.* 5.6¾ or 66¾ *d.*

Admitting the discount upon Paper to be 20 per Cent, the depreciation in value of the rate is thus calculated.

The discount upon 500 reis in paper is 100 reis.
therefore 1000 reis legal = 900 effective.
or Effective money is to legal as 1000 to 900.

£

If 10,00 produce .278 what will 9,00 produce?

9

Answer. £ .2502 = 5*s.*

(or)

The discount of 20 per Cent upon the one half payable in paper, makes 10 per Cent upon the whole payment.

£

.278

.0278 for 10 per Cent.

£ .2502 = 5*s* or 60*d.*

VIENNA.

The money of Exchange and Account, consists chiefly of Florins and Cruitzers, of which

1 Florin = 60 Cruitzers = 240 Pfenings.

In some exchanges the Rix Dollar of 90 Cruitzers, and the Specie Dollar of 120 Cruitzers, are used, and in others the courses are reckoned in Copstics, or 20 Cruitzer Pieces.

The currency of this capital of the Austrian Empire, consists of Specie, and Bank Notes or Government Paper.

The Gold Coins are, double, single, and half Sovereigns, and Ducats.

The Silver Coins are, Rix Dollars of 2 Florins, single Florins and half Florins, with 20 Cruitzer Pieces.

1 Sovereign = 13 Florins 20 Cruitzers. 1 Ducat = $4\frac{1}{2}$ Florins.

WEIGHTS.—TROY.—1 Mark = 8 oz. = 16 loths = 64 quintins.
640 Marks Vienna = 481 lb. Troy.
5 Marks Vienna = 6 Marks Cologne.

COMMERCIAL.—1 Saum = $2\frac{3}{4}$ Centners = 275 lb.

1 lb. = 16 oz. = 32 loths 100 lb. Vienna = $123\frac{1}{2}$ lb. Avoir.

The fineness of Gold is expressed in carats and grains, of which 24 carats make 1 Mark, and 12 grains 1 carat. Of silver the report is made in loths and grains, 18 grains making 1 loth, and 16 loths, 1 Mark.

1 Cologne Mark of Gold, of $23\frac{2}{3}$ carats fine, produces 67 Ducats.

1 Cologne Mark of Silver, of $13\frac{1}{3}$ loths fine, produces $16\frac{2}{3}$ Florins.

According to these rates, the value is the sovereign is 13*s* $10\frac{1}{2}$d. of the Ducat 9*s* $4\frac{1}{2}$ d, and of the Florin 2*s* $1\frac{1}{4}$ d.

The French reports of the above Coins are,

Double Sovereign.	gramm. 11.101	assay.	915	fine gr.	10.157
Sovereign	5.524	....	915	.....	5.054
Ducat	3.452	....	986	.....	3.404
Rix Dollar	28.045	....	830	.....	23.277
Florin	14.023	....	830	.....	11.639
20 Cruitzers	6.639	....	580	.....	3.851

Paper Currency.—In the drawing of Bills upon Vienna, it is necessary that they should be directed to be paid in effective or specie, as they might otherwise be paid in Bank Notes, which are at a considerable discount; 100 Florins in specie are now worth 250 Florins in paper.

Courses of Exchange.—These were recently as follows.

London.....	9	Flor. 10 Cruit.	for 1 £ Sterling.
Paris.....	112½	Cruitzers.....	for 3 Francs.
Amsterdam...	136¾	Rix Dollars...	for 100 Rix Dollars Banco.
Hamburgh....	149	Rix Dollars...	for 100 Rix Dollars Banco.
Frankfort....	99¼	Florins effec.	for 100 Florins Vienna.
Augsburg	99¼	Ditto.....	Ditto
Leghorn.....	58¾	Soldi Moneta Buona	for 1 Florin.
Genoa.....	62¾	Soldi Correnti	for 1 Florin.
Milan	67¼	Soldi Correnti	for 1 Florin.
Constantinople	61	Florins	for 100 Piastres.

When the Courses of Exchange are given in Bank Money, they are varied according to the relation which this money bears to effective; as London in Paper 23 Florins.
Amsterdam .... 341 &c.

Usance.—The Usance for Bills is 14 days from the day of acceptance.

Days of Grace.—For Bills at more than 7 days sight, there are allowed 3 days of grace, if required; or payment may be delayed for this term beyond the days on which they are due, without prejudice to the holder.

Example.

To exchange £ 609 12 *s* into Florins effective, at the rate of 10 Florins 5 Cruitzers per £.

Flor.		
609		
10	5	
6090		for 10 Flor.
50	45	.. 5 Cruitz.
5	$2\frac{1}{2}$	.. 10 *s*
1	$0\frac{1}{2}$	.. 2 *s*
Florins 6146	48	Cruitz.

(Proof.)

To exchange Florins 6146 48 c. into sterling at the above rate.

F.	c.		£		F.	c.	
If 10	5	produce	1	what will	6146	48	produce?
605 cr.					368808 cr.		

£	£	*s*	
605) 368808	(609	12	Sterling.
5808			
363			
) 7260	(12		
1210			

FRANKFORT ON THE MAYN.

The money of account and exchange is either Rix Dollars and Batzen, or Florins and Cruitzers.

1 Rix Dollar	=	1½ Florins	=	90 Cruitzers.
1 Florin	=	60 Cruitzers	=	15 Batzen.
1 Batzen	=	4 Cruitzers	=	16 Pfenings.

The Specie Rix Dollar = 2 Florins, 30 Batzen, or 120 Cruitzers.

Weights.—The weight for Gold and Silver is the Cologne Mark, for which see "Hamburgh."

Commercial Weight.—The Centner contains 100 lb. heavy weight, or 108 lb. light weight.

The Centner is equal to 112¼ lb. Avoirdupois.

100 lb. light weight are equal to 103 lb. Avoirdupois.

Frankfort.	French.	English.
100 Ells.....	54.728 Metres	Ells 47.88
100 Feet	28.46	Feet 93.37
Malter.....	114.732 Litres	Gall. 30.31
Simmer	28.683 .... :	Gall. 7.58

Exchanges.—Quotation Sept. 21, 1819.

Frankfort gives to

Amsterdam....	139¼	Rix Dollars	for 100 Rix Dollars Current.
Hamburgh	147¼	Rix Dollars	for 100 Rix Dollars Banco.
London	149¾	Batzen....	for 1 £ Sterling.
Paris.....	79	Rix Dollars	for 300 Francs.

Upon Vienna, Prague, Augsburg, and other places in the interior of Germany, the exchange is chiefly reckoned by a per Centage premium or discount.

The ordinary usance for Bills is 14 days after acceptance; but those payable during the time of the great fairs at Easter and in September, are presented for acceptance during the first of the three weeks which each fair continues, and are payable at the end of the second week, unless specified to the contrary in the Bill.

Example.

To exchange £550 10*s* into Florins, at the course of 152 Batzen per £ Sterling.

Batz.		Batz.		Flo.	cr.	
½ 152		152	=	10	8	
550				550		
83600				5500		
76				55		for 6 cr.
				18	20	.. 2 cr.
Batz. 83676				5	4	.. 10*s*.
Flor. 5578	24 cr.			Flor. 5578	24	

Reckoning the additional expense of making remittances to Vienna through the medium of Frankfort, instead of making them direct, as they now can be effected, at one half per Cent, or ¾ Batzen, the equivalent course would be reduced to 151¼ Batzen, or 10 Florins 5 cruitzers, which was the quotation in London for drawing upon Vienna, on the day when the exchange with that place was opened, viz. the 24th of September, 1819.

To exchange Rix Dollars 3718. 84 cr. into Sterling at 152 Batzen per £ Sterling, or 152 Rix Dollars per £22 10*s* Sterling.

	Batz.		£		R. D.	cr.	
If	152	produce	1	what will	3718.	84	produce?
	608 cr.				334704	cr.	

£
608) 334704

£550 10*s* Sterling.

LEGHORN.

The Accounts of this place are usually kept in Pezze, Soldi, and Denari.

1 Pezza = 20 Soldi
1 Soldo = 12 Denari.

In domestic trade, the Lira of 20 Soldi di Lira, or 240 denari di Lira, is most commonly used.

In calculations with Lire, a distinction is made of the moneta lunga, or long money, and the moneta buona or good money; 23 lire effective being considered as equal to 24 lire lunga.

In the Courses of Exchange, the Pezza or Dollar is stated to be either of 8 reals, the same as the Spanish Dollar of Exchange, or of $5\frac{3}{4}$ Lire.

Weights. Gold and Silver—1 Pound = 12 ounces.
1 oz. = 24 denari or dwts. 1 dwt. = 24 grains.
100 lb. of this weight = 91 lb. English Troy.
1 lb. = 339.51 grammes.

Commercial Weight.—A Centaro is a weight differing in the number of Pounds which it contains, according to the articles with which it is used. Most fine goods are sold by the pound, or by the Rotolo of 3 lb. The centinajo of 100 lb. Leghorn, is considered as equal to 74,6-7ths lb. Avoirdupois.

Measures.—10 Barilla of Wine = 111 English Gallons.
10 Barilla of Oil = 84 .. do. .....

Coins.—The principal present Gold Coin of Leghorn or Tuscany is the Ruspono, of 40 Lire moneta buona; it was formerly separated into thirds called Sequins.

The silver Coins are the 10, 5, and 1 Lire Pieces, with the Pezza of $5\frac{3}{4}$ Lire, the Francescone of $6\frac{2}{3}$ Lire, the Testone of 2 Lire, and Paolos, or Pauls of which 3 make 1 Testone, and 10 make 1 Francescone or Leopoldine; all in moneta buona.

Weight and Fineness of the Coins.—The report of the Gold coins is either pure Gold or very nearly so—it being 1 c. $3\frac{1}{4}$ *g.* Better, or 1 c. $3\frac{7}{8}$ *g.* Better.—The full weight of the Ruspono is 6 dwts. $17\frac{1}{4}$ gr: the contents in pure Gold 161 grains, and the value in sterling £1 8 6.

The french report is on average 996—full weight 10.411 grammes, and fine, 10.369 grammes.

The last coinage of the Sequins, in 1779, is thus reported.

full weight 3.452	—	Assay .999	—	fine weight 3.449
or grains 53.32	—	Better 1 *c.* $3\frac{1}{2}$ *gr.*	.. grains ..	53.27
		Value 9 *d.* $5\frac{1}{8}$		

The Silver Coins are thus reported and valued at 62 *d.* per oz. st.

	oz.	dwt.	gr.	report.	fine grs.		*s.*	*d.*
10 Lire	1	5	7	B. 7 dwts.	579.8	value	6	8.96
5		12	$15\frac{1}{2}$	.. 7	289.9	....	3	4.48
1		2	12.7	$6\frac{3}{4}$	57.8	....		8.07
10 Pauls*	17		$14\frac{1}{2}$	W. 4	385.7	....	4	5.86

French report.	full weight.	assay.	fine.
10 Lire	39.305 gr: ..	955 gram:	37.536
1 Lira	3.930	953	3.745
10 Pauls–Ferd: III.	27.407	913	25.023
Louis I.	27.301	913	24.926
* average	27.353		

The relative values of fine Gold and Silver are as 14.48 to 1.

By the financial Regulations of this Place, Bills of Exchange are payable in Gold Coins, but from the standards which have been fixed for these and Silver Coins, the latter is the only currency by which any payments can generally be made; and it has in consequence been established, as a regulation between merchants, that Silver shall be accepted in payment with a discount of 7 per cent, or that 100 Dollars in Gold shall be equal to 107 Dollars in Silver.

COURSES OF EXCHANGE.—Quotation, 11th Sept. 1819.

Leghorn receives from and gives to

Amsterdam	95	grotes	for 1 Pezza.
London	49¾	pence	"
Hamburgh	88½	grotes	"
Paris	105	sols	"
Genoa	126¼	soldi fu. co.	"
Naples	124½	Ducats	100 Pezze.
Venice	544	Lire	100 Pezze.
Madrid	135½	Pesos old plate	100 Pezzé.
Lisbon	912	Reis	1 Pezza.
Palermo	12	Tari 8 gr.	"
Rome	130½	Bajocchi	"
Bologna	96	Bolognini	"
Augsburg	202	Florins current	100 Pezzé.
Milan	737½	Soldi current	1 Pezza.
Vienna	202	Florins effect	100 Pezze.
Constantinople	278	Aspers	1 Pezza.
Malta	31	Tari	"

Quotation of the prices of Spanish Coins.

thus	Dollars	Lire	6	5 *s.*	8 *d.*
	Doubloons		96	10	0

The Usance for Bills drawn from Amsterdam, Cadiz and Hamburgh is 2 months after date—from France 30 days date—from London and Lisbon, 3 months date—Augsburg and Vienna, 22 days date. There are no days of Grace.

Example.

To exchange £ 80, into Lire, at $47\frac{3}{4}$ *d.*

If $47\frac{3}{4}$ *d.* produce 1 Pezza. what will £ 80 produce ?

191 f. 76800 f.

Pezze. P *s.* *d.*

191) 76800 (402 1 $10\frac{1}{2}$

..400

18

191) 360 (1

169

191) 2028 (10

118

Lire *s.* *d.*

$\frac{1}{4}$....402 1 $10\frac{1}{2}$

6

2412 11 3 for 6 Lire

(Subtract) 100 10 5 $\frac{1}{4}$

Lire 2312 0 10 Answer.

(Proof.) Pez. *s.* *d.*

2312 0 10

4

23) 9248 3 4

Pezze 402 1 $10\frac{1}{2}$

d	£	*s.*	*d.*
40 ... $\frac{1}{6}$ ...	402	1	10.5
5 .... $\frac{1}{8}$	67	0	3.75
$2\frac{1}{2}$ ... $\frac{1}{2}$	8	7	6.47
$\frac{1}{4}$ ... $\frac{1}{10}$ ...	4	3	9.23
		8	4.52
£	80	0	0

d.

$\frac{1}{2}$....402

47

18894

$\frac{1}{2}$.... 201

$100\frac{1}{2}$

4 for 1 *s.* 8 *d.*

$\frac{1}{2}$..... $2\frac{1}{2}$

d. 19200 = £ 80

GENOA.

The principal and now almost the only money of account, is the Italian Livre, or Lira, soldi and denari, called moneta fuori banco.

1 Lira = 20 Soldi. 1 Soldo = 12 Denari.

Formerly the monies of account were either,

Banco which was 25 per Cent better than currency.

Permesso ..... 15 per Cent better than currency.

Cartularo..... $94\frac{2}{9}$ per Cent better than currency.

Besides which, there were various other monies formed by different valuations of an imaginary Crown, all of which are nearly, if not entirely, obsolete.

Weights.—For Gold and Silver, and for all small weights, called Peso Sottile. 1 lb. = 12 oz. = 288 denari = 6912 grains. 1 lb. of this weight = 317.095 grammes = 4897.75 grains troy, or 20 lb. Genoese Peso Sottile = 17 lb. English.

Peso Grosso, for heavy goods.—1 Cantaro = 100 Rottoli of 18 oz. each, or 150 Rottoli or Pounds of 12 oz. each.

100 lb. Peso Grosso = 34.833 Kilog = 76.914 lb. Avoir.

Courses of Exchange.—Late Quotation.

Genoa gives to or receives from

London.....	46	pence	for	1 Pezza of $5\frac{3}{4}$ Lire.
Paris.....	$96\frac{1}{2}$	sols		
or	4	Francs $77\frac{1}{2}$ cents		1 Pezza
Amsterdam.....	$90\frac{1}{4}$	grotes		1 Pezza.
Hamburgh.....	45	soldi, f. b.....		1 Mark Banco.
Vienna.....	$61\frac{1}{4}$	"		1 Current Florin.
Naples.....	$105\frac{1}{4}$	"		1 Ducat.

The usance for Bills from Lisbon and London, is 3 months date; Amsterdam, Spain, and Sicily, 2 months date; and from France 1 month after date.

From the interior of Germany, and from other parts of Italy, the usance varies from 3 weeks to 8 days sight.

The Exchanges with London are calculated similarly to those of Leghorn.

VENICE.

The present money of Account and Exchange, is the Italian Livre or Lira, and Centimes.

1 Lira = 100 Cents.

Weights.—For Gold and Silver—The Mark of 8 oz.
1 oz. = 4 quarters, 24 dwts, 144 carats, or 576 grains.
The Mark = 238.541 Grammes = 3684.4327 grains troy.

For Commercial Purposes there are said to be two weights, the Grosso and Sottile, or large and small weights.

1 lb. Grosso = 12 oz. g. 100 lb. = 105.288 lb. Avoir. Eng.
1 lb. Sottile = 12 oz. s. 100 lb. = 80.944 lb. Troy.

Courses of Exchange.—Recent Quotation.

	Venice gives to			
London..... 25	Lire Ital....	for....	1	£ Sterling.
Leghorn..... 520	Centimes.....		1	Dollar of Ex.
Genoa..... 83¼	"	.....	1	Lira.
Naples..... 439	"	.....	1	Ducat.
Paris..... 102⅜	"	.....	1	Franc.

The Exchanges with London are similar to those of France.

To exchange £ 800 into Lire at 27 Lire per £.

Lire. 27
800

Answer Lire 21600

(Proof.)

If 27 Lire produce 1 £ what will 21600 Lire produce?

27) 21600 Lire.

Answer £ 800 Sterling.

NAPLES.

Accounts are kept in Ducats and Grains.

1 Ducat = 100 Grains.

The Ducat has also been divided into 5 Tari or 10 Carlini, and in the calculations of Exchanges the Grain is divided into 100 Centimes.

WEIGHTS.—Gold and Silver—The Libra or Pound contains 12 oz.
1 oz. = 30 Trapesi, or 600 Acini = French Grammes 26.730.
1 lb. = 4954.36 grains English. 1 oz. = 412.86 grains English.

COMMERCIAL WEIGHT.—Cantaro Grosso = 100 Rotoli.
3 Rotoli = 100 oz. Neap. Troy = 2673 Grammes.
1 Rotolo = 31.456 oz. Avoir. 1 Cantaro = 196.6 lb. Avoir.
Cantaro Piccolo = 150 lb. Neap. = 106.164 lb. Eng. Avoir.

COINS.—Gold—The Oncette....5 Oncette....10 Oncette.

	Neap. Aci.	French G.	Assay.	Fine Grammes.
Oncette.....	85.....	3.786.....	986.....	3.733
5 Onc.....	425.....	18.933.....	986.....	18.668
10 Onc.....	850.....	37.867.....	986.....	37.335
SILVER.				
Ducat.....	515.....	22.943.....	833⅓.....	19.119
12 Carlini	618.....	27.532.....	same.....	22.943
6 "	309.....	13.765.....	same.....	11.471
2 "	103.....	4.588.....	same.....	3.823
1 "	51½.....	2.294.....	same.....	1.911

The Oncette is current for Three Silver Ducats, and the relative values thus established of fine Gold and Silver are as 15.36 to 1.

Gold, but not Silver, Coins, are allowed to be received by weight.

Spanish Dollars are valued at 124 Grains.

The English Weights, &c. of the Oncette, and of the Ducat valued at 62 *d.* per standard oz., are,

	Weight.	Assay.	Fine.	Value.	per oz.
Onc.	gr. 58.477	B. 1 c. 2⅝	g. 57.658	*s.* 10 2¼.8	£ 4 3 9–.6
Duc.	354.370	W. 1oz. 2	295.306	3 5–.9	*s.* 4 7¼.4

COURSE OF EXCHANGE.—Recent Quotation.

	Naples gives to		
London....	Grains 538.00	cents for	1 £ Sterling.
Hamburgh	42.70	.....	1 Mark Banco.
Amsterdam	47.90	.....	1 Current Florin.
Paris.....	22.30	.....	1 Franc.
Lisbon.....	53.25	.....	1 Crusade of 400 Reis.
Cadiz.....	88.65	.....	1 Dollar of Exchange.
Genoa	18.70	.....	1 Lira fuori Banco.
Leghorn.....	118.25	.....	1 Dollar of 8 reals.
Venice.....	22.20	.....	1 Italian Livre.
Vienna	58.60	.....	1 Current Florin.
Augsburgh.....	51.25	.....	1 Current Florin.
Milan.....	17.25	.....	1 Livre.
Rome.....	123.50	.....	1 Scudo.
Ancona	122.60	.....	1 Scudo.
Florence	19.30	.....	1 Lira.
Palermo	120.75	.....	1 Scudo of 12 Tari.

USANCE.—The usance for Bills drawn from Rome, Genoa, Leghorn, Venice, Sicily, and Italy, is 22 days after acceptation; from any part of the Kingdom of Naples, 15 days; from France, Holland, and Germany, 2 months date; and from England and Portugal 3 months date.

Three Days Grace are allowed.

PALERMO.

By the late regulations, the monetary System established for Naples, is also to be applicable to the currency of Sicily.

The Oncette, or Onza, contains 3 Ducats, and the Ducat 100 Bajocchi, or Grains. Of the Division of the Ducat into Tari and Carlini, it is to be observed, that as the Sicilian denominations are only one-half in value in comparison with the Neapolitan, the Ducat is said to contain 10 Tari, or 20 Carlini, and the Onza 30 Tari, or 60 Carlini or 600 Grani. The 12 Carlini Pieces of Naples, form the Sicilian Scudo or Crown of 12 Sicilian Tari.

The Exchanges of Palermo upon London and the reverse, are reckoned in pence sterling for the Onza of Gold: with the above quotation it was 116 pence per Onza.

Example.

To exchange £ 806 12 *s.* into Neapolitan and Sicilian money, at the rates of 39 pence per ducat, and 117 pence per onza.

d		Ducat		£ *s.*	
If 39	produce	1	what will	806 12	produce ?

16132 *s.*

193584 *d.*

Ducats

39) 193584

Ducats 4963 69 grains.

d.		Onza		£ *s.*	
If 117	produce	1	what will	806 12	produce ?

193584 pence

Onza

117) 193584

Onza 1654.16 *t.* 18 *g.*

Proof.

	£	Pence.
$\frac{1}{8}$	4963.69	4963.69
$\frac{1}{5}$	620.461	39
$\frac{1}{2}$	124.092	193583,91
	62.046	*s.* 16132
	£ 806.599 or	£ 806 12 *s.*
	£ 806 12 *s.*	

and

oz. 1654 16 *t.* 18 *g.* = oz. 1654 16.9 *t.* = oz. 1654 . 563 -100ths.

s.

1654.563 amount at 1 *s.*

16545.63 ..... 10 *s.*

413.64 ..... 3 *d.* (*subtracted.*)

s. 16132 = £ 806 12 *s.*

MALTA.

Accounts are kept in Scudi, Tari, and Grains.

1 Scudi or Crown = 12 Tari = 240 Grains.

The Dollar of Exchange contains $2\frac{1}{2}$ scudi or 30 Tari.

WEIGHTS.—The Cantaro = 100 Rotoli of 30 oz. = 175lb. Avoirdupois or $163\frac{3}{4}$ lb. Hamburgh ; $160\frac{5}{8}$ lb. Amsterdam ; $79\frac{1}{4}$ Kilogrammes, France ; $172\frac{7}{8}$ lb. Portugal ; $172\frac{1}{8}$ lb. Spain ; 89 Rotoli Peso grosso of Naples ; 166 lb. Peso grosso and $262\frac{1}{4}$ Peso sottile of Venice ; $234\frac{5}{8}$lb. Leghorn ; and to $62\frac{1}{4}$ Okes of Constantinople, Smyrna, and Alexandria.

MEASURES.—The Salm, (stricked measure) contains 17.680 cubic Inches English, = $8\frac{1}{8}$ Winchester Bushels; $21\frac{1}{2}$ Alqnieres of Lisbon; 5 Fanegas of Cadiz ; 8 Kilos of Constantinople; and 1 Ardeb of Rosetta.

The Caffiso is equal to $5\frac{1}{4}$ Gallons, and
The Barrel is equal to 11 Gallons English.
The Cane of 8 Palms is equal to 82 Inches English.

COURSES OF EXCHANGE.—July 24, 1819.

London.	Government Bills	50 *d.* per Spanish Dollar
		48 *d.* per Current Dollar
	Private Bills	49 *d.* per Dollar of Exchange
Naples		$24\frac{1}{4}$ Tari per Ducat
Marseilles		5 Tari 14 gr: per Franc
Genoa		4 Tari 15 gr: per Lira. F. B.
Smyrna		111 Paras per Scudo
Leghorn		$30\frac{1}{2}$ Tari per Dollar

The following Coins are current at fixed values, viz.

Spanish Doubloon	at	$38\frac{3}{4}$ Scudi
Dollar		31 Tari
Sicilian Ounce		$6\frac{1}{4}$

They sell with an agio reckoned in Tari for Gold, and in grains for Silver.

Example.

To find for what amount a Bill must be drawn upon London, at 48 *d.* per Current Dollar, to pay for the purchase of 1000 Spanish Dollars, bought at the agio of 1 grain.

1000 Dollars	=	31000 Tari
1000 g. Agio	=	50 Tari
		31050 Tari
		1035 Current Dollars.

1035 Dollars at 4 *s.* = £ 207 0 0 Amount of the Bill.

Admitting the Charges of bringing these Dollars to London and selling them there, to be $2\frac{1}{2}$ per Cent, then,

The cost	£ 207	0	0
$2\frac{1}{2}$ per Cent	5	3	6
Cost and Charges	212	3	6 which by the Table

given in Page 543 gives a price of very nearly 4*s.* $10\frac{3}{4}$ *d.* per ounce for the value of Dollar Silver :

Supposing them to sell here for 5 *s.* per oz, the value by the same table will be ..... £ 216 12 6

and deducting the above 212 3 6

it leaves a profit of ..... £ 4 9 0

Or, very nearly £ 2 per Cent.

FINIS.

ERRATA IN PART 1.

Page

27 line 23, for 6*s.* read 9*s.*
42 " 5, for 9*d.* read 6*d.*
43 " 4, for 6, read 36.
" " 5, for £ 57 read £ 58
45 —— Example 8, for lb. read cwt.
47 —— Example 11, line 2, for 3*d.* read 6*d.*
84 line 4, for one, read two.
" " 3, of Example, for 0, read 6.
" " 7, of Example, for 14, read 4.
85 " 2, of Example, for 3, read 0.
" " 6, of Example, for 39, read 12.
87 " 3, of Example, for 0 0 read 14 6.
" " and for 5, read 2.
" " 7, for £ 4398 read £ 4298
96 " 14, for 19, read 9.
" " 15, for £1 read 18*s.* 4*d.*
" " 16, for *s.* 14 7 read *s.* 2 11¼
99 last line, for £ 45 read £ 15.
130 Example 2, line 2, for 6 per cent, read 5 and 6 per cent.
133 line 19, for, 00137, read .000137.
149 " 10, for Bank of England, read Bankers.
168 " 2, for rampant, read passant.
174 in the Example, for 8 gr. read 9 gr.
187 in Example 1, line 1, for 17 feet, read 11 feet.
222 Example 2, line 2, for 26 feet, read 20 feet.
249 Example 8, for £9 7 6 and £ 234 7 6 read £ 42 3 9 and £ 267 3 9

ERRATA IN PART 2.

Page.

262 for Page 15 read 267.
270 " " 10 " 262.
294 " " 40 " 292.
300 " " 24 and 43 read 276, 295.
331 " 8⅔ read 8⅓.
353 The Title of the Act should have been inserted.
392 for Page 15 read 267.
394 for Pages 380 and 384 read 128 and 132.
458 for 48 Hhds. read 50 Hhds.
464 for 456 read 456.4.

Upon a further reference to M. Bonneville's Work upon Gold and Silver Coins, it is observed, that he reports the fineness of the Joannese of 1805, to be 916, or less than $\frac{1}{8}$ of a grain worse than Standard. This gives the weight of fine metal to be 13.088 grammes, or very nearly 202.1 grains troy, and the value to be £1 15 $9\frac{1}{4}$.

The Crusade of 1802 is thus reported.

Full weight.....	14.660	or 9 dwts.	10.43 grains.
Assay	894	or $7\frac{1}{2}$ dwts.	worse.
Fine	13.106	or 202.43	grains.

Value at 62 *d.* per Standard oz. *d.* $28\frac{1}{4}$.08.

See Page 548.

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